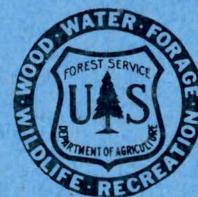


UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

ACTION PROGRAM FOR
RESOLUTION OF LIVESTOCK-RIPARIAN CONFLICTS
ON THE SALT RIVER AND VERDE RIVER



REGION THREE

ARIZONA

TONTO, PRESCOTT AND COCONINO

NATIONAL FORESTS

ACTION PROGRAM FOR
RESOLUTION OF LIVESTOCK-RIPARIAN CONFLICTS ON THE
SALT RIVER AND VERDE RIVER

TONTO, PRESCOTT AND COCONINO NATIONAL FORESTS

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I. INTRODUCTION

The detrimental impacts of unrestricted livestock grazing on riparian vegetation in the Salt and Verde River stream courses have been recognized for many years. (Importance, Preservation and Management of Riparian Habitat: A Symposium July 9, 1977; Strategies for Protection and Management of Floodplain Wetlands and Other Riparian Ecosystems December 11-13, 1978; Grazing and Riparian/Stream Ecosystems November 3-4, 1978.) However, lack of manpower essential for resource studies and management planning, shortage of funds for range structural facilities needed to implement sound livestock management and the enormity of resource problems elsewhere have, in combination, resulted in some grazing allotments and portions of the rivers affected by those allotments, to date being managed under management regimes that are far behind the state of the art and science of range management. This inadequate management, when coupled with long-term overstocking problems on some allotments, has resulted in severe deterioration of not only the riparian plant communities but the range resource over the rest of the allotment as well. The situation is not identical for each of the Forests involved, nor is it the same for each allotment on a Forest. Hence, correction actions must be approached on an allotment by allotment basis.

Although the deteriorated condition of riparian communities has long been recognized as being detrimental to the well-being of many wildlife species, only in comparatively recent times has the probable adverse effect on the endangered Southern Bald Eagle been of concern. This concern has heightened as more has been learned about the ecology of the eagle and the habitat components essential to survival of this unique Sonoran Desert population.

Many observers are of the opinion that the regeneration of cottonwood and other riparian hardwood trees essentially ceased on the Salt and Verde Rivers with the advent of unrestricted cattle grazing about a century ago. The remaining cottonwood trees are, for the most part, nearing the end of their normal life span and attrition by death, floods, etc. is occurring at an alarming rate.

Although their loss is of concern to many wildlife species, special concern has been voiced by the Maricopa Audubon Society, University personnel, biologists employed by various government agencies, etc. because of the special significance these trees hold for the nine known pairs of nesting Bald Eagles found along the Salt and Verde Rivers. It is believed by some observers that the eagles prefer trees to cliff sites for nesting. Because of the increasing scarcity of suitable trees, eagles are forced to use cliff sites where available within established territories. The same observers are quick to point out that cliff sites are unsuitable alternatives to trees because of reduced fledging survival. Trees are also deemed important as stream-side foraging perches for the capture of fish, the primary dietary item.

The Tonto, Coconino and Prescott National Forests began to recognize the importance of the riparian habitat along the Salt and Verde Rivers and elsewhere several years ago.

The Coconino National Forest made a detailed examination of the condition of the riparian communities along that segment of the Verde River in 1974. The condition of riparian communities was subjectively classified along the various reaches of the river and that information has subsequently been used in range management planning efforts.

The Prescott National Forest has fenced some areas along the Verde River in an effort to improve the riparian community.

Starting last year, the Tonto launched a program to inventory and classify the riparian communities found along all primary stream courses on the Forest. Complimentary biological data are being collected which will eventually lead to the ability to predict impacts on individual wildlife species and groups of species resulting from an action (positive or negative) directed at a riparian area.

In addition, in fiscal year 1979, the Tonto initiated some modest efforts to directly improve riparian habitat and to establish bench marks from which experience can be gained for use in more ambitious programs in succeeding years. Among these are two exclosures on Tangle Creek, totaling 13 acres; one exclosure on Sycamore Creek, totaling 12 acres; a 20 acre fenced exclosure on the lower Verde River in which five acres of cottonwood nursery stock will be planted and irrigated for 18 months; and a 400 acre exclosure encompassing the historic Blue Point Cottonwoods eagle nesting territory and important aquatic habitat for the endangered Yuma Clapper Rail.

A FY 78 contract with Arizona State University resulted in the analysis of riparian vegetation along the Salt and Verde Rivers on the Tonto. Of the 7800 total acres of riparian communities, 55% were honey mesquite, 17% were cottonwood willow, 16% were salt cedar, 7% were willow and 3% were salt cedar honey mesquite mixed. The 2% remaining acres contained various mixtures of willow, ash, sycamore, mesquite and arrowweed.

Of interest is the 1350 acres of cottonwood-willow.

All of the cottonwood stands on the Tonto are mature. There are no young stands of poles or saplings to replace the old trees when they die out. The existing stands of mature cottonwood trees have no young seedlings or saplings under them. Small or young cottonwood trees are nearly non-existent along the Salt and Verde Rivers on the Tonto.

Late in 1978 The Maricopa Audubon Society wrote the Tonto National Forest of that organization's concern that eagle habitat is not being adequately protected and managed on the Salt and Verde Rivers and advised that Audubon was prepared to take legal action against U.S. Forest Service grazing policy, deemed to be in direct conflict with the Endangered Species Act. The Tonto National Forest developed a position statement on the matter and a summary of apparent alternatives for dealing with the

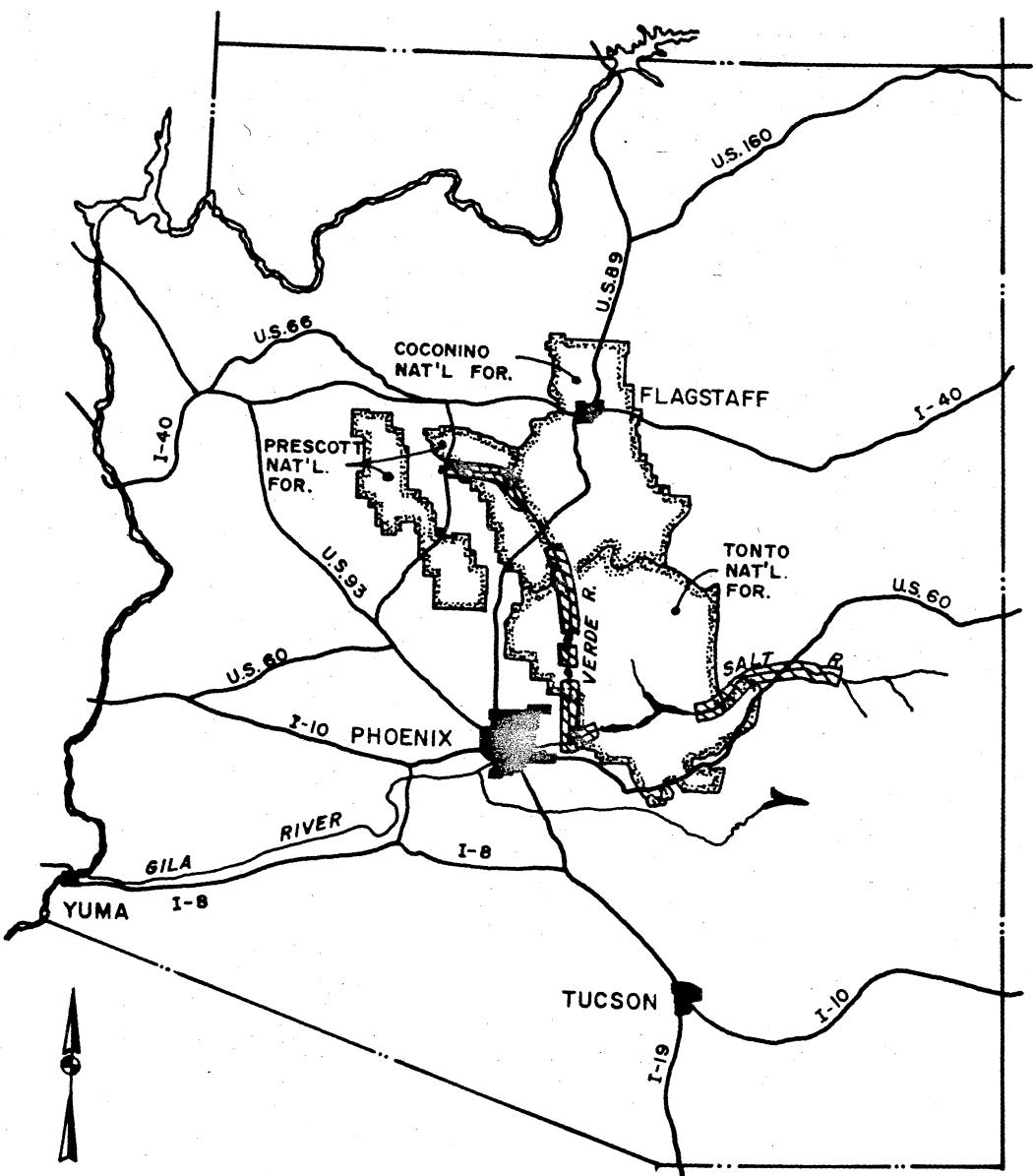
problem and reviewed these with the Maricopa Audubon Society and its legal counsel on January 8, 1979. At that meeting Audubon requested detailed information about the affected grazing allotments, not only on the Tonto but on the Prescott and Coconino National Forests as well. The requested information was forwarded and a second meeting was scheduled for February 12, 1979 to further discuss the alternatives for resolution of recognized problems. The Forest Supervisors of the Prescott and Coconino attended this latter meeting.

At the meeting on February 12, alternatives ranging the gamut from "do nothing" to "termination of grazing permits for cattle" were discussed. The Forest Service identified its preferred alternative: to proceed with a short-range program of direct habitat improvement in areas crucial to the nesting pairs of eagles, accompanied by a longer term program of range management planning designed to improve the entire riparian resource on the Salt and Verde Rivers.

Audubon could not judge the adequacy of this proposed program without more specific details, nor was the Forest Service prepared to furnish those details without an on-the-ground examination of opportunities and needs. Thus it was agreed that each Forest would put together its separate program and the Prescott and the Coconino would forward theirs to the Tonto by July 1, 1979 for consolidation into a proposed program covering the Salt and Verde Rivers. A target date of July 9, 1979 was set for forwarding the program to The Maricopa Audubon Society and a meeting was scheduled for July 31, 1979 to discuss it with them.

Each Forest's program is presented in the succeeding pages. As mentioned earlier, each Forest worked independently in this effort and each varies as to opportunities and needs, hence no attempt has been made to follow a single format.

Of the 150 miles inventoried along the Salt and Verde, only portions of these rivers are suitable to support and maintain stands of cottonwood. Physical features such as geology and channel width influence existence of alluvial benches to support riparian vegetation as much as grazing and other factors. Of the 150 miles of river inventoried, only small portions were deemed suitable for direct habitat improvement by fencing or artificial regeneration of cottonwood trees, or both.



VICINITY MAP
BALD EAGLE NESTING HABITAT IN ARIZONA

II. COCONINO NATIONAL FOREST

A. Introduction

The majority of information in this statement was gathered over a two month period which included several extended trips into the more remote portions of the Verde River and its side canyons.

<u>Allotment</u>	<u>Miles of River Accessible by Livestock</u>
Wingfield Mesa	None
Cottonwood Basin	1.85
Hackberry	4.25
Fossil Creek	1.45
Ikes Backbone	None

B. Long Range Program

1. Wingfield Mesa Allotment

From Forest boundary in Section 26, T.13N., R.5E. None of the Verde River is accessed by permitted livestock from this allotment. We have a picture taken of the river in 1892 from this allotment; it is much the same condition nearly 80 years later.

Permitted Numbers 125

Permitted AUM's 870

Estimated Grazing Capacity from 1959 Range Analysis 825 AUM's

Current Estimated Grazing Capacity Under a Sound Management System (From On-going Studies or Best Professional Estimate) 870 AUM's

Adjustment in AUM's Necessary to Implement Management System 0

Estimated Costs of Range Facilities Needed to Implement Management System 0

Target Year for Range Study
Completion and Management
Plan Implementation with
Existing Manpower

1983

Target Year for Range Study
Completion and Management
Plan Implementation with
Existing Manpower

1983 (3 PU Studies)

2. Cottonwood Basin Allotment

This allotment has just undergone a reduction of 60 percent of its current permitted numbers, which will go into effect next grazing season. The direct habitat improvement work proposed consists of construction of one-half mile of fence to exclude cattle from one and one-half miles of river, and planting of approximately 25 cottonwood trees at three spring locations on this portion of the river. This project proposal is the Forest's second priority. Refer to enclosed map, priority #2 for location.

Also within this allotment is another proposal, priority #3, which consists of closing approximately three-fourths mile of road to vehicles within the ladders nesting territory.

Permitted Numbers 125 (Reduced to 50 10/21/80)

Permitted AUM's 917 (367 10/21/80)

Estimated Grazing Capacity from 1979
Range Analysis 367 AUM's

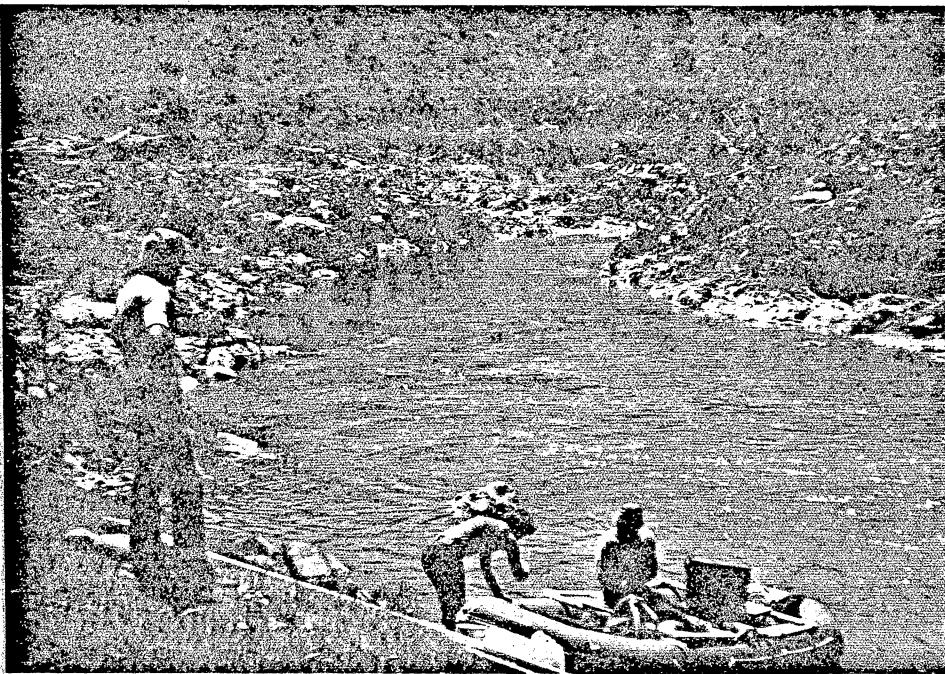
Current Estimated
Grazing Capacity Under
a Sound Management System
(From On-going Studies or
Best Professional Estimate) 367 AUM's

Adjustment in AUM's
Necessary to Implement
Management System None

Estimated Costs of
Range Facilities Needed
to Implement Management
System \$10,250 (Waters and Fencing)

Target Year for Range
Study Completion and
Management Plan
Implementation with
Existing Manpower Studies Complete, Mgt. Plan-80

Target Year for Range
Study Completion and
Management Plant
Implementation with
Increased Manpower Same as above



Cottonwood Basin Allotment below "the falls". Areas of the river like these which cut into bedrock have little potential to produce quality riparian vegetation because of lack of alluvium deposits. Many miles of the river are dominated by this physical feature.

3. Hackberry Allotment

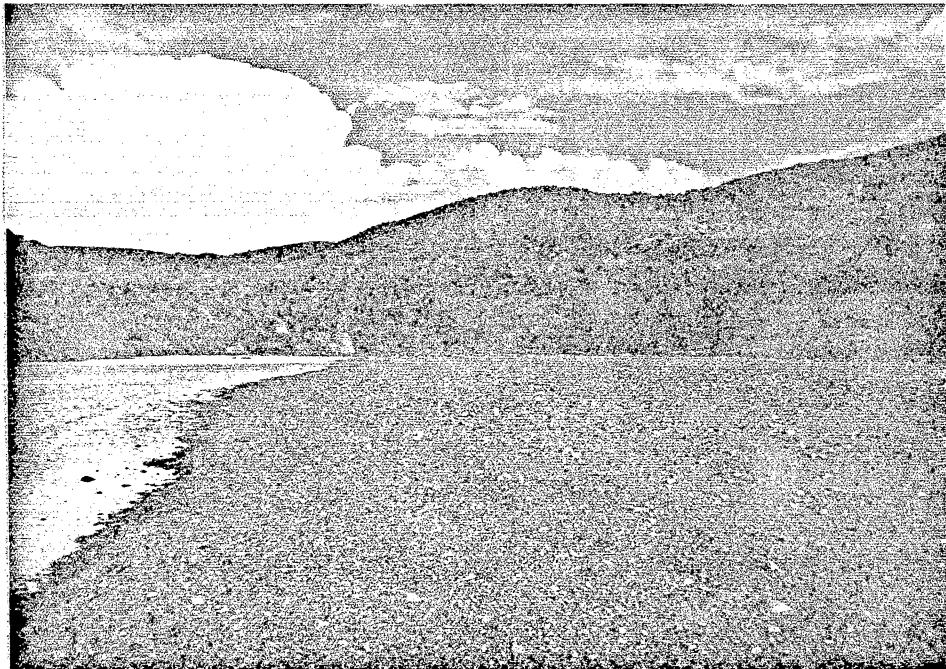
This allotment has the greatest access to the Verde River, but the potential to produce quality riparian is rather limited due to the nature of the river in this portion. The majority of the river channel is narrow and cut down to bedrock producing few areas where riparian vegetation could be established and maintained. Only one proposal for habitat improvement is suggested for this allotment. It is included in our priority #2 proposal (refer to enclosed map), because of a large bench shared between Cottonwood Basin Allotment and this allotment. The proposal calls for construction of one-half mile of fence to exclude cattle from three-fourths mile of river bottom. There would be a need for stock trail and water to replace water lost by fencing out river.

Permitted Numbers	600	
Permitted AUM's	4200	(Actual Stocking) (2800 AUM's Now)
Estimated Grazing Capacity from 1964 Range Analysis	2440 AUM's	
Current Estimated Grazing Capacity Under a Sound Management System (From On-going Studies or Best Professional Estimate)	2800 AUM's	
Adjustment in AUM'S Necessary to Implement Management System		Reduce Permitted to 2800 AUM's
Estimated Costs of Range Facilities Needed to Implement Management System	\$20,000 (Waters & Trails)	
Target Year for Range Study Completion and Management Plan Implementation with Existing Manpower	1982	
Target Year for Range Study Completion and Management Plan Implementation with Increased Manpower	1982	

4. Fossil Creek Allotment

Of the portion of the river which is accessible from this allotment, approximately one and one-half miles was rated as having the highest potential to produce quality riparian vegetation because of a long broad bench and low river gradient. The Forest's first priority calls for construction of one and one-half miles of fence to exclude cattle. No planting should be necessary on this site due to abundant natural regeneration on most of the site.

Permitted Numbers	<u>477</u>
Permitted AUM's	<u>5724</u>
Estimated Grazing Capacity from <u>1963</u> Range Analysis	<u>4290 AUM's</u>
Current Estimated Grazing Capacity Under a Sound Management System (From On-going Studies or Best Professional Estimate)	<u>5720 AUM's</u>
Adjustment in AUM's Necessary to Implement Management System	<u>0</u>
Estimated Costs of Range Facilities Needed to Implement Management System	<u>40,000 (Under Existing Plan)</u>
Target Year for Range Study completion and Management Plan Implementation with Existing Manpower	<u>1985 (Revise or Update Plan)</u>
Target Year for Range Study Completion and Management Plan Implementation with Increased Manpower	<u>Same as above</u>



Fossil Creek Allotment. This large alluvial bench is one mile below the Prescott-Tonto boundary. This nine acre stand of Cottonwoods occurs on a large bench with high potential to produce riparian vegetation. This primary feature of the river (wide floodplain) makes these kind of sites high priority for habitat improvement.

5. Ike's Backbone Allotment

This allotment has just undergone a reduction of 68 percent of its current permitted numbers, which will go into effect next grazing season. This allotment has extremely limited access to the river by two water lanes which have no impact on river vegetation. No habitat improvement work is proposed due to the lack of potential of the area administered by the Coconino NF.

Permitted Numbers 93 (Reduced to 30 head 10/21/80)

Permitted AUM's 682 (220 10/21/80)

Estimated Grazing Capacity from 1979
Range Analysis 220 AUM's

Current Estimated Grazing Capacity Under a Sound Management System (From On-going Studies or Best Professional Estimate) 220 AUM's

Adjustment in AUM's Necessary to Implement Management System None

Estimated Costs of Range Facilities Needed to Implement Management System \$11,750

Target Year for Range Study Completion and Management Plan Implementation with Existing Manpower (Studies completed, Mgt. Plan 80)

Target Year for Range Study Completion and Management Plan Implementation with Increased Manpower Same as above

C. Short Range Program

Summary of Coconino National Forest Projects By Priority - Including \$

Proposal 1. Fossil Creek Allotment - Project would be located down river from Hackberry and Fossil Creek Allotments. This project would consist of fencing one and one-half miles of the Verde River to exclude cattle from the broadest portion of the river, which the Coconino administers. Fencing should be sufficient to maintain good quality riparian vegetation.

One and one-half miles of fence	\$9,000
Extend pipeline to replace water lost by fencing river	10,000 <i>done</i>
Overhead	<u>500</u>
Total Need	\$19,500

Proposal 2. This project is planned on two allotments, Cottonwood Basin and Hackberry, and should be considered as one proposal because of the nature of the river at this point. Construct one mile of fence, one-half mile on each allotment, to exclude cattle from approximately two miles of river. In conjunction with the fencing, two spring sites adjacent to the river are suitable for planting of container stock cottonwoods.

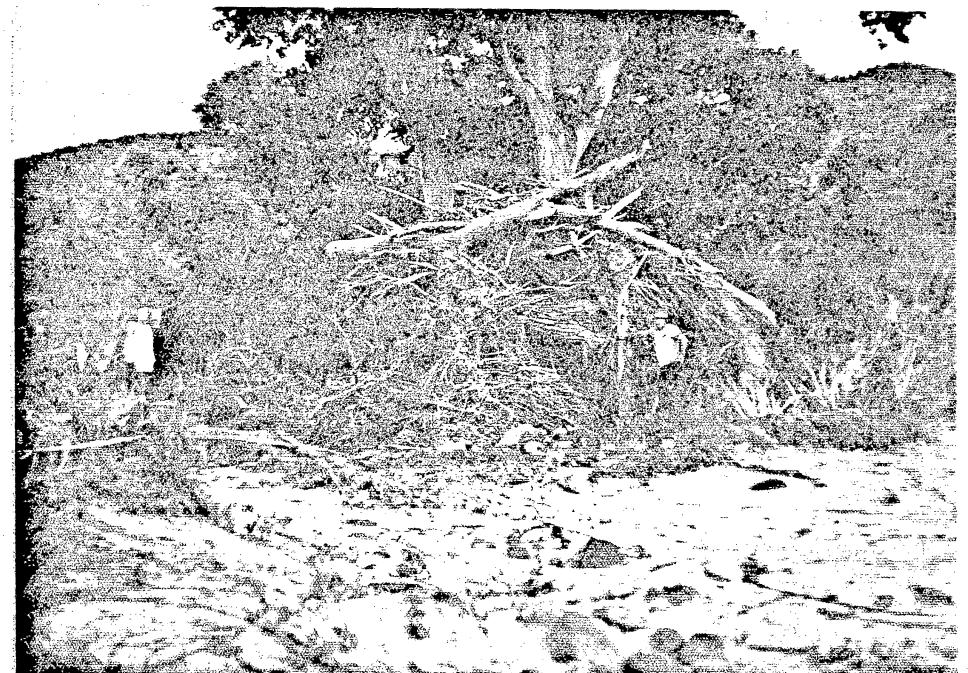
One mile of fence	\$8,000
Planting 25 cottonwood trees	540
Stock tank and trail	8,000
Overhead	<u>600</u>
Total Need	\$17,140

Proposal 3. This project is located on the Cottonwood Basin Allotment and would consist of closing approximately three-fourths mile of road to vehicles within the ladders nesting territory. This area would be open to people who would want to walk. This would prevent vehicles from parking and being seen from the ladders nest site.

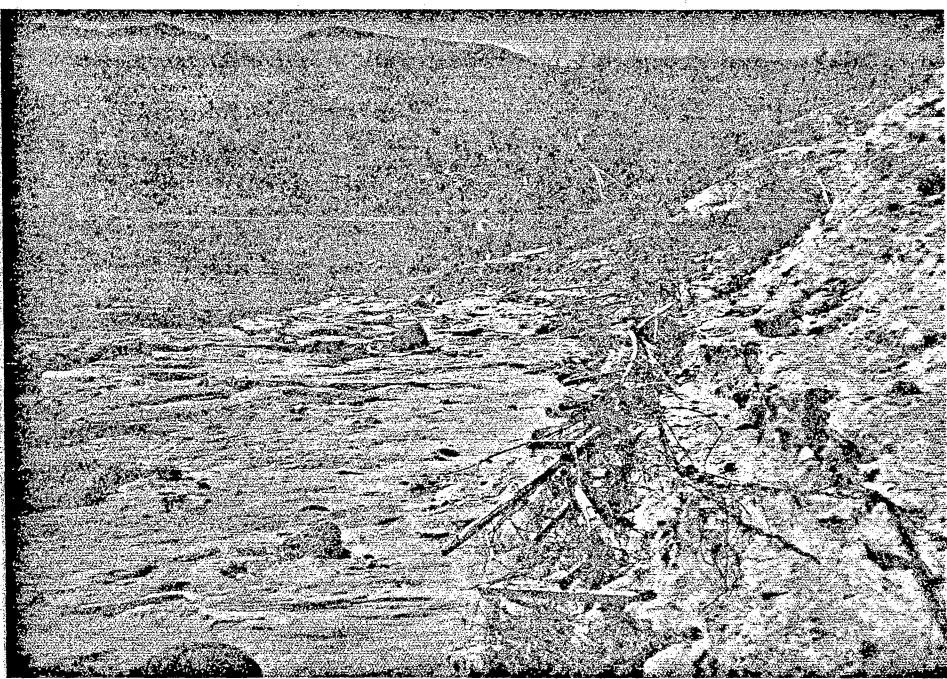
Tractor and driver (one day)	\$150
Tiltbed truck to move tractor	60
Overhead	<u>50</u>
Total Need	\$260



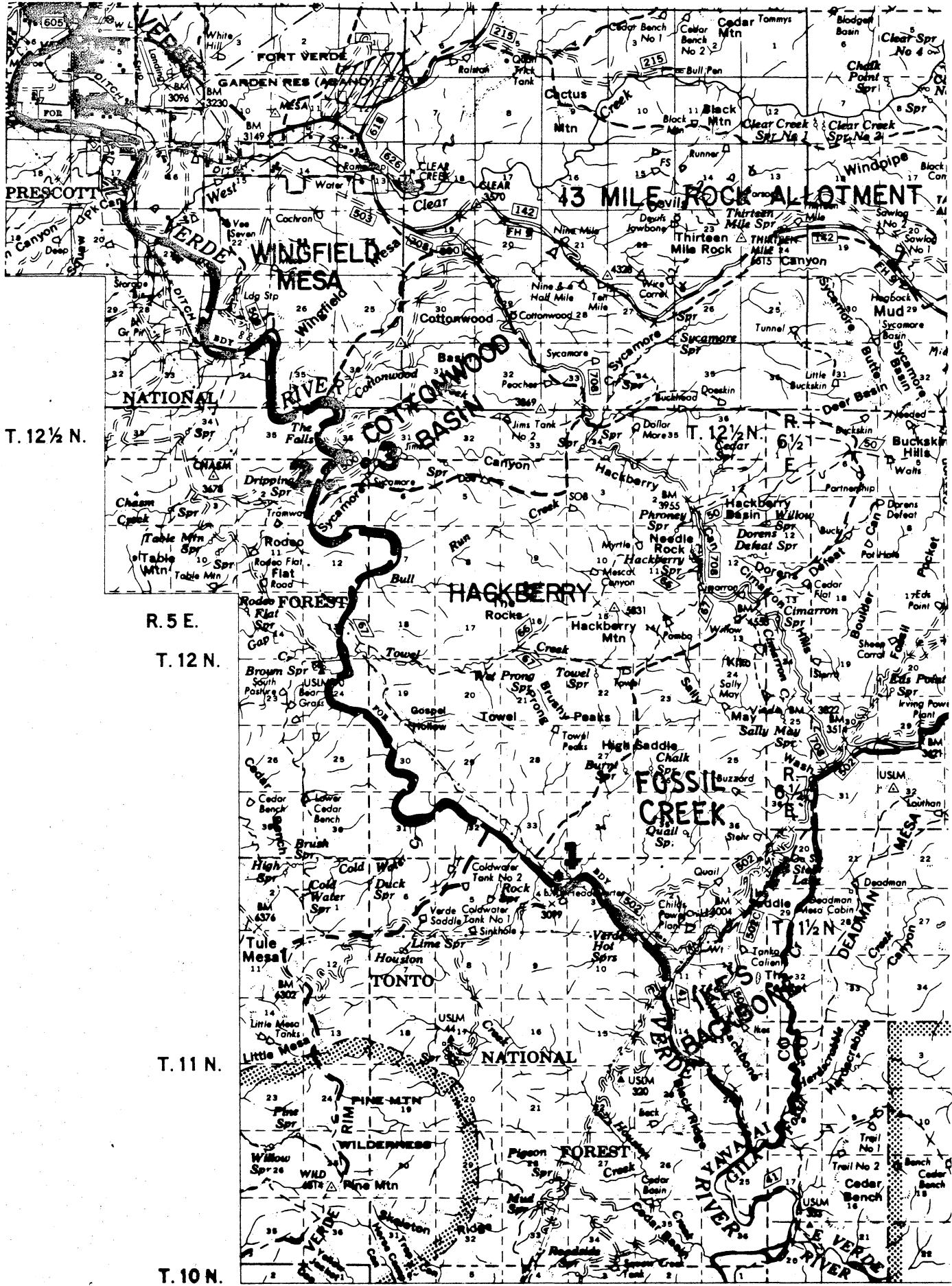
Natural regeneration of cottonwood. These cottonwood seedlings are planted and germinated following high flows this past winter.



The same high flows also cause considerable damage by tearing out mature trees then batter them against trees downstream.



Another example of areas that will not support quality riparian vegetation because of physical conditions and not situations due to management.



III. PRESCOTT NATIONAL FOREST

A. Introduction

The Upper Verde River from its source at Sullivan Lake to Clarkdale, Arizona has supported more Southern Bald Eagles (Haliaeetus leucocephalus) than current estimates show. A change in habitat from numerous cottonwood (Populus fremontii) stands on floodplain benches to a more open habitat favored by mesquite (Prosopis juliflora), desert willow (Chilopsis linearis), salt cedar (Tamarix pentandra), and baccharis (Baccharis spp.) has been postulated as a reason for reduced eagle sightings.

B. Objective

The survey objective was to inventory established cottonwood stands and/or record areas having cottonwood regeneration capability on National Forest Service lands along the Verde River from the Forest boundary below Sullivan Lake to Clarkdale, Arizona and from Camp Verde, Arizona to the Forest boundary with the Tonto National Forest.

C. Methods

Two separate float trips were conducted to survey the National Forest Service lands along 29 river miles from Clarkdale, Arizona, T.16N., R.3E., to the Verde Ranch, Section 35, T. 18N., R.1W. The first trip was conducted April 17-19, 1979, and was from the Verde Ranch to Packard, Section 8, T.17N., R. 3E. The second trip was conducted on April 27, 1979, from Packard to Tapco, Section 8, T.16N., R.3E.

Information for the river segment between Camp Verde, Arizona and the Tonto National Forest was supplied by Howard Hudak, Coconino National Forest Wildlife Biologist.

The proposed improvement of cottonwood regeneration in the riparian area along the Verde River centers on excluding cattle from portions of the river with a minimum of fencing, by utilizing bluff and cliff areas, or managing livestock on a deferred pasture system with seasonal use every 3 or 4 years. Planting of suitable benches is only feasible immediately below Sycamore Creek and in isolated areas below Camp Verde, Arizona.

D. Results

There are 14 allotments that border along the Verde River on the Prescott National Forest. Five allotments have no Southern Bald Eagle habitat potential because of land ownership other than National Forest Service. They are the Jerome, Quail Springs, Verde, Copper Canyon, and Young allotments. The 9 remaining allotments involve the Verde River from where it enters the Forest east of Sullivan Lake, downstream to the private land boundary just upstream from Clarkdale, Arizona and from National Forest Service lands below Camp Verde, Arizona to the Tonto National Forest boundary. Each allotment's eagle habitat potential was classified high, medium, or low based on the following criteria:

High - If any portion of the allotment had suitable benches for cottonwood regeneration or had a currently active nest territory.

Medium - If any portion of the allotment contained a historic nest territory.

Low - If it didn't classify for one of the above but was National Forest Service land.

None - If other than National Forest Service land dominated the river front, precluding any feasible habitat enhancement or maintenance.

The following is an allotment-by-allotment analysis of the current grazing status. Pictures of typical bank conditions and canyon characters are included for allotments exhibiting representative features.

1. Muldoon Allotment

The Muldoon Allotment borders on the Verde River for 3.5 miles in Sections 5, 4 and 3, T.17N., R.1W. Only 1.5 miles of the included 3.5 miles are National Forest Service lands. There are no gravel benches along the river in the Muldoon Allotment that are suitable for cottonwood regeneration.

Allotment Information

Permitted number and season	<u>195 yearlong</u>
Permitted grazing (A.U.M.'s)	<u>2340</u>
Estimated grazing capacity (A.U.M.'s)	<u>2340</u>
Range analysis date	<u>1968</u>
Adjustments needed	<u>None</u>
Range analysis current	<u>Yes</u>
Range Mgmt. plan current	<u>No</u>
Completion target w/current funding	<u>FY 79</u>
Completion target w/increased funding	<u>FY 79</u>
Estimated range improvement costs	<u>0</u>
Is eagle habitat present?	<u>Yes</u>
What is habitat potential?	<u>Low</u>

Eagle Habitat Enhancement

The capability and therefore the opportunity to establish cottonwoods on the Muldoon Allotment is low. The entire allotment is in an area used little, if at all, by the Southern Bald Eagle. The area has no short range improvement needs, however, the planned management system includes a separate pasture system to enable a more controlled use of the pasture that contains the river. The Muldoon Allotment has 1.5 miles of Forest Service land with suitable range on both sides of the river.

2. Del Rio Allotment

The Del Rio Allotment borders on the Verde River for 10 miles in Sections 34 and 35, T.18N., R.1W; Sections 1, 2, and 12, T.17N., R.1W.; Sections 7, 6 and 5, T.17N., R.1E.; and Sections 28, 29, 30 and 31, T.18N., R.1E. Only 6 miles of the 10 miles are National Forest Service lands. There are no gravel benches along the river in the Del Rio Allotment that are suitable for cottonwood regeneration. The area contains a historic nest territory, which makes it medium potential for eagles.

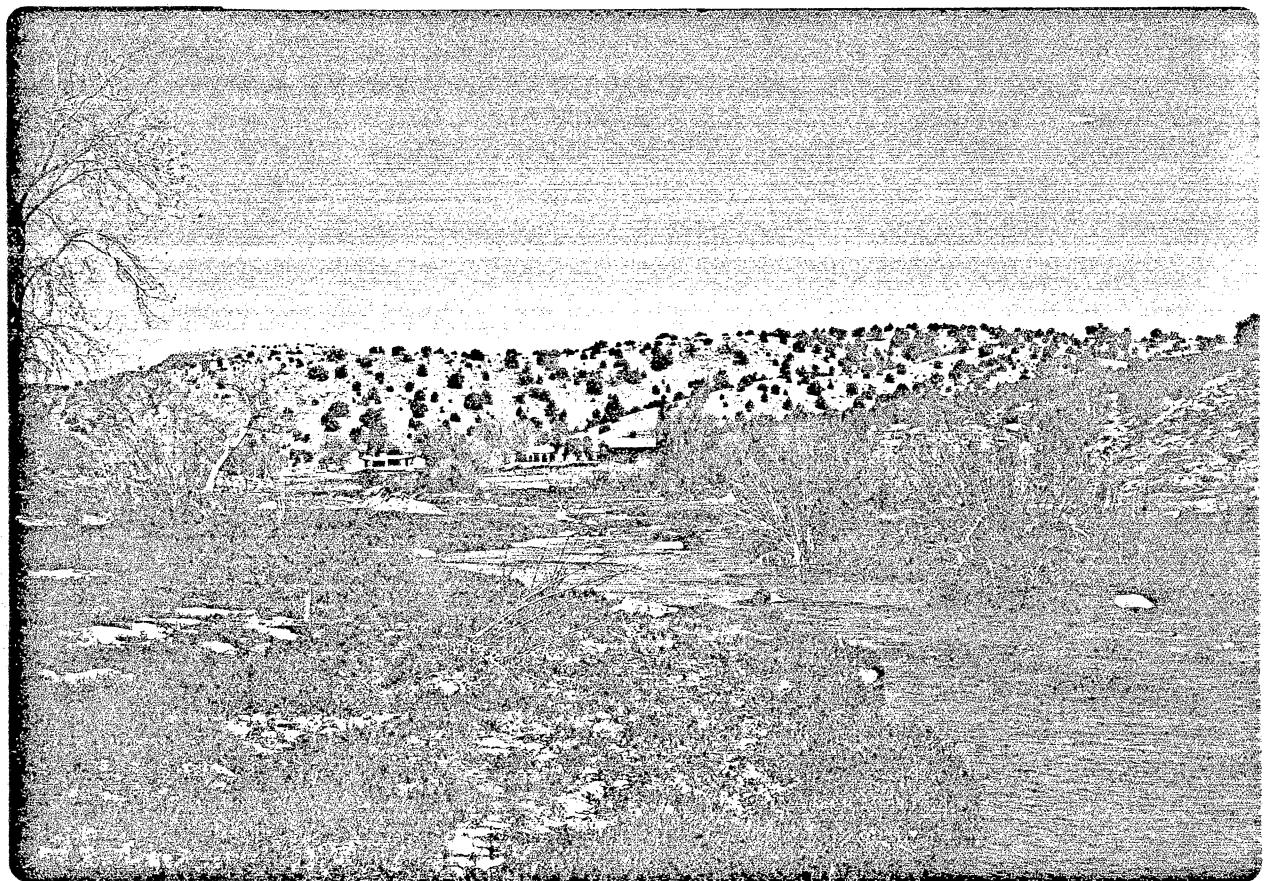
Allotment Information

Permitted number and season	<u>250 yearlong</u>
Permitted grazing (A.U.M.'s)	<u>3000</u>
Estimated grazing capacity (A.U.M.'s)	<u>2330</u>
Range analysis date	<u>1964</u>
Adjustments needed	<u>(-)670</u>
Range analysis current?	<u>Yes</u>
Range Mgmt plan current?	<u>Yes</u>
Estimated range improvement costs	<u>0</u>
Is eagle habitat present?	<u>Yes</u>
What is habitat potential?	<u>Medium</u>

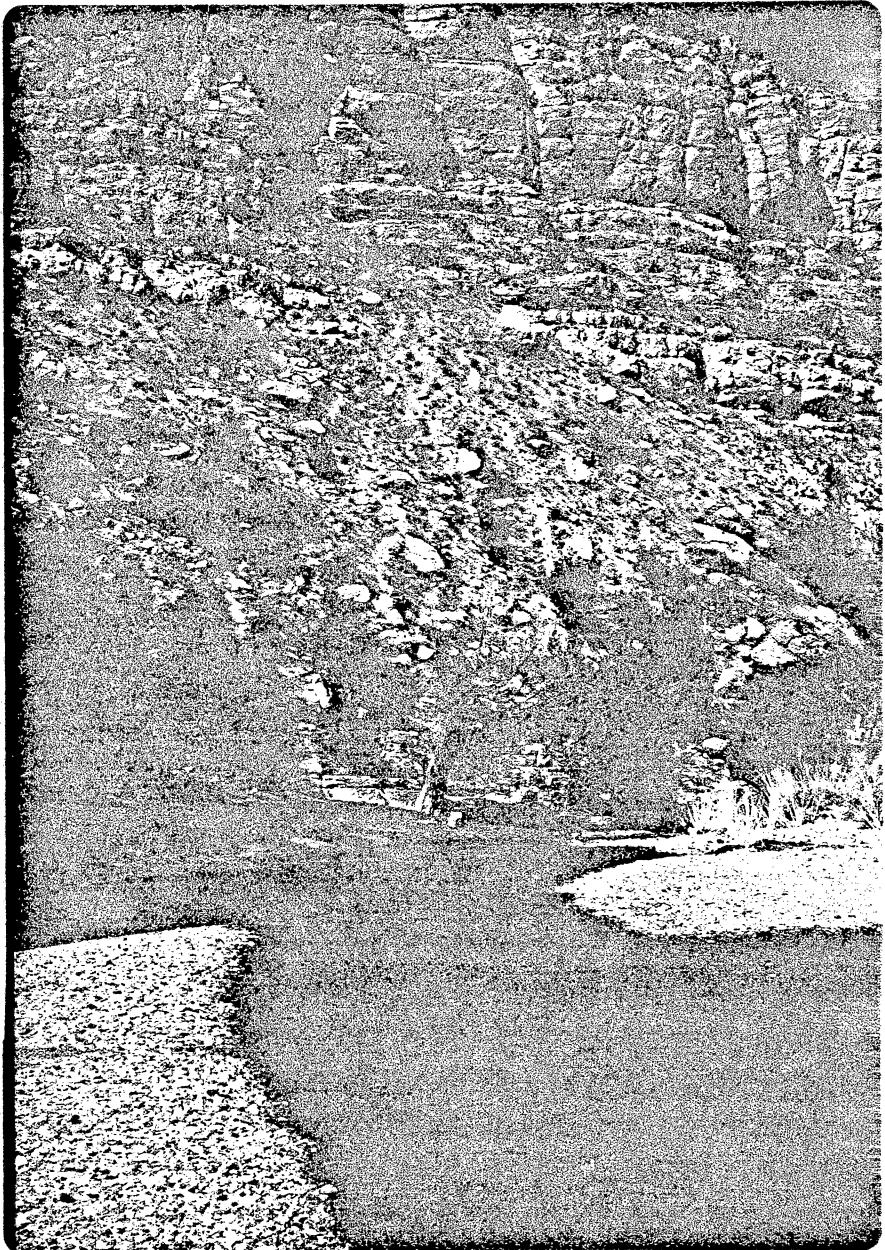
Eagle Habitat Enhancement

Short range projects alone would not produce the desired results on this allotment. Fencing into pastures and supplying water and increased feed by juniper control to attain better livestock distribution and manageability are the means to releasing the riparian area from grazing pressure on the Del Rio Allotment.

Short Range Costs	<u>\$21,000</u>
Long Range Costs	<u>44,000</u>
Fencing	
Water	
Juniper push and revegetation	



Some of the best opportunities for cottonwood regeneration exist on private lands. The above picture shows gravel benches along the Upper Verde River near the Verde Ranch Headquarters - Del Rio Allotment.



Del Rio Allotment. Rocky limestone cliffs with small, very inaccessible benches. Vegetation is box elder and ash. Very limited opportunity for short range enhancement. Best opportunity for riparian vegetation release is deferred pasture with limited livestock access to river bottom.

3. China Dam Allotment

The China Dam Allotment borders on the Verde River for 7 miles in Sections 27, 28, 29, 30, and 31, T.18N., R.1E.; Sections 5 and 6, T.17N., R.1E. All 7 miles are National Forest Service land but cattle have access to only 2 miles of the 7 mile total. There are no gravel benches along the river in the China Dam Allotment that are suitable for cottonwood regeneration. Part of the China Dam Allotment is historic eagle nesting territory, making this area medium eagle habitat.

Allotment Information

Permitted number and season	105(6 winter mos)
Permitted grazing (A.U.M.'s)	1260
Estimated grazing capacity (A.U.M.'s)	1260
Range analysis date	1977
Adjustments needed	0
Range analysis current?	Yes
Range Mgmt. plan current?	No
Completion target w/current funding	FY 80
Completion target w/increase funding	FY 80
Estimated range improvement costs	\$45,000
Is eagle habitat present?	Yes
What is habitat potential?	Medium

Eagle Habitat Enhancement

Because of management on most of the allotment, only one small short range fence project to control livestock use on one pasture adjacent to the river is needed.

Short Range Costs	<u>\$1,000</u>
Long Range Costs	<u>0</u>

4. Sand Flat Allotment

The Sand Flat Allotment borders on the Verde River for 2 miles in Sections 27, 34, and 35, T.18N., R.1E. The portion of the river that contacts the allotment is of low eagle potential with no gravel benches suitable for cottonwood regeneration.

Allotment Information

Permitted number and season	<u>180 yearlong</u>
Permitted grazing (A.U.M.'s)	<u>2111</u>
Estimated grazing capacity (A.U.M.'s)	<u>2131</u>
Range analysis date	<u>1975</u>
Adjustments needed	<u>None</u>
Range analysis current	<u>Yes</u>
Range mgmt. plan current	<u>Yes</u>
Estimated range improvement costs	<u>\$90,000</u>
Is eagle habitat present?	<u>Yes</u>
What is habitat potential?	<u>Low</u>

Eagle Habitat Enhancement

The current range management program does not present an immediate threat to the cottonwood regeneration. Maintenance of water gaps are critical on this allotment. Long range maintenance and construction are the needed activities.

Short Range Costs	<u>0</u>
Long Range Costs	
Water Wells (2)	<u>\$40,000</u>
.5 mile Fence	<u>1,500</u>
Watergap and maintenance	<u>7,000</u>
	<u>\$48,500</u>

5. Perkinsville Allotment

The Perkinsville Allotment borders on the Verde River for 10 miles in Sections 32 and 34, T.18N., R.2E.; Sections 2, 3, 4, 5, 9, 11, 12 and 13, T.17N., R.2E.; and Section 7, T.17N., R.3E. Only 3 miles of the 10 miles provide river access for cattle. There are no gravel benches on National Forest Service lands along the river in the Perkinsville Allotment that are suitable for cottonwood regeneration. However, since this area contains a historic nesting territory, it is classified as medium potential eagle habitat.

Allotment Information

Permitted number and season	<u>266 yearlong</u>
Permitted grazing (A.U.M.'s)	<u>3192</u>
Estimated grazing capacity (A.U.M.'s)	<u>3192</u>
Range analysis date	<u>1970</u>
Adjustments needed	<u>None</u>
Range analysis current	<u>Yes</u>
Range mgmt. plan current	<u>Yes</u>
Estimated range improvement costs	<u>0</u>
Is eagle habitat present?	<u>Yes</u>
What is habitat potential?	<u>Medium</u>

Eagle Habitat Enhancement

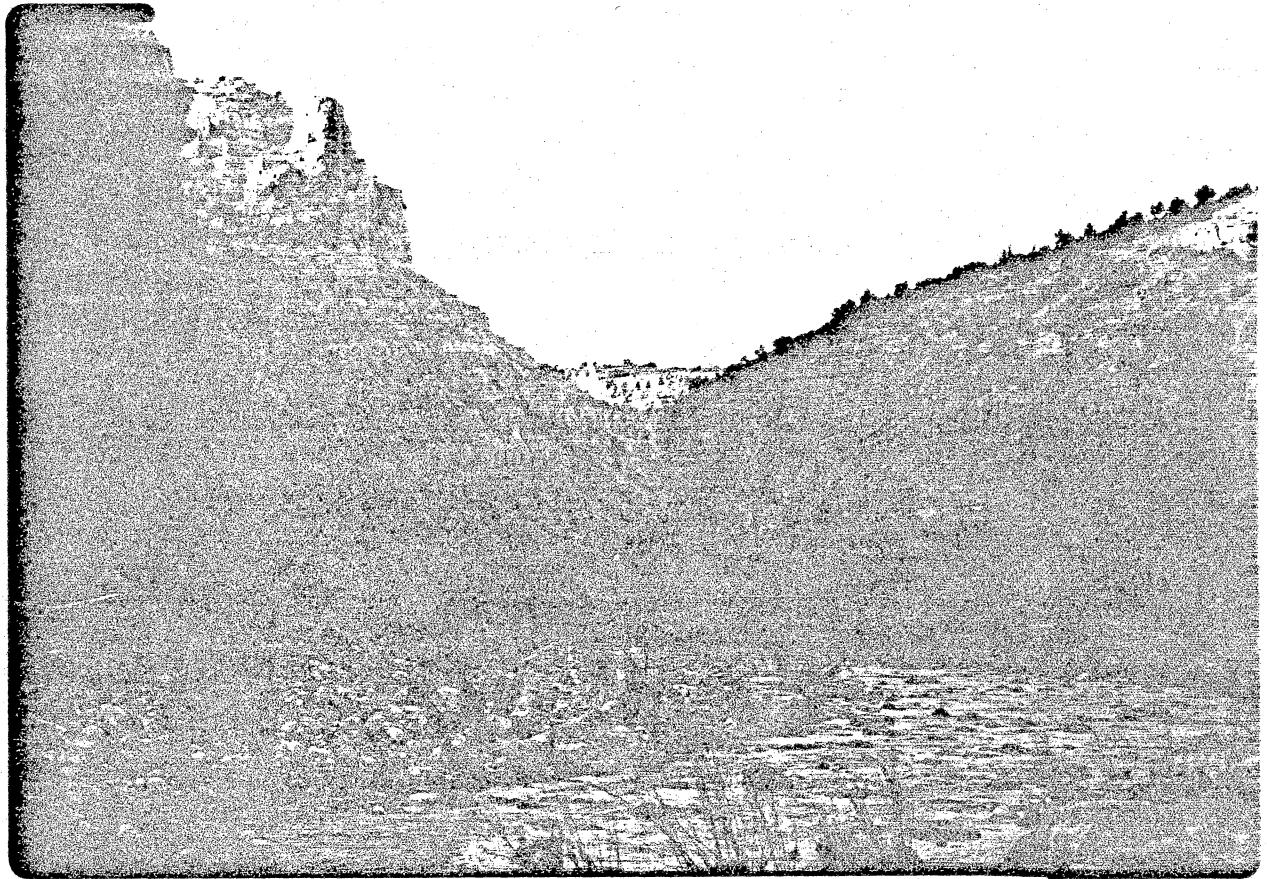
Perkinsville Allotment has a management plan that allows for 1 mile of river to be used once every other year by approximately 10 horses. The remainder of the allotment supplies no livestock access to the river.

Short Range Costs

Watergap maintenance	<u>\$1,500</u>
China Dam/Perkinsville	

Long Range Costs

Watergap maintenance	<u>\$7,000</u>
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Perkinsville Allotment. Steep walled gorge with talus and rock rubble to river course. Marginal stand of mesquite, baccharis and ash due to extensive scouring at flood stage.

6. Horseshoe Allotment

The Horseshoe Allotment borders on the Verde River for 3 miles in Sections 4 and 5, T.17N., R.2E.; and Sections 31 and 32, T.18N., R.2E. Cattle have access to the river for the entire 3 miles. There are no gravel benches along the river in the Horseshoe Allotment that are suitable for cottonwood regeneration. However, part of this area is a historic eagle nesting territory and is therefore classified as medium potential eagle habitat.

Allotment Information

Permitted number and season	<u>225 yearlong</u>
Permitted grazing (A.U.M.'s)	<u>2700</u>
Estimated grazing capacity (A.U.M.'s)	<u>1670</u>
Range analysis date	<u>1966</u>
Adjustments needed	<u>(-) 1030</u>
Range analysis current?	<u>No</u>
Completion target w/current funding	<u>FY 82</u>
Completion target w/increased funding	<u>FY 82</u>
Range mgmt. plan current	<u>No</u>
Estimated range improvement costs	<u>\$2,000</u>
Is eagle habitat present?	<u>Yes</u>
What is habitat potential?	<u>Medium</u>

The present management system allows for fencing of the river to make it a separate pasture. The use of the river at present is 2 months a year for a branding and/or holding pasture for shipping.

7. Antelope Hills Allotment

The Antelope Hills Allotment borders on the Verde River for 13 miles in Sections 2, 3, 4, 9, 11 and 12, T.17N., R.2E.; Section 34, T.18N., R.2E; and Sections 7, 17, 21, 28, 29, and 32, T.17N., R.3E. All of the river is accessible to cattle. The Antelope Hills Allotment has high eagle potential because of 14 acres of suitable gravel benches for cottonwood regeneration.

Allotment Information

Permitted number and season	<u>58 yearlong</u>
Permitted grazing (A.U.M.'s)	<u>696</u>
Estimated grazing capacity (A.U.M.'s)	<u>696</u>
Range analysis date	<u>1969</u>
Adjustments needed	<u>None</u>
Range analysis current?	<u>Yes</u>
Range mgmt. current?	<u>No</u>
Completion target w/current funding	<u>FY 80</u>
Completion target w/increased funding	<u>FY 80</u>
Estimated range improvement cost	<u>0</u>
Is eagle habitat present?	<u>Yes</u>
What is habitat potential?	<u>High</u>

Eagle Habitat Enhancement

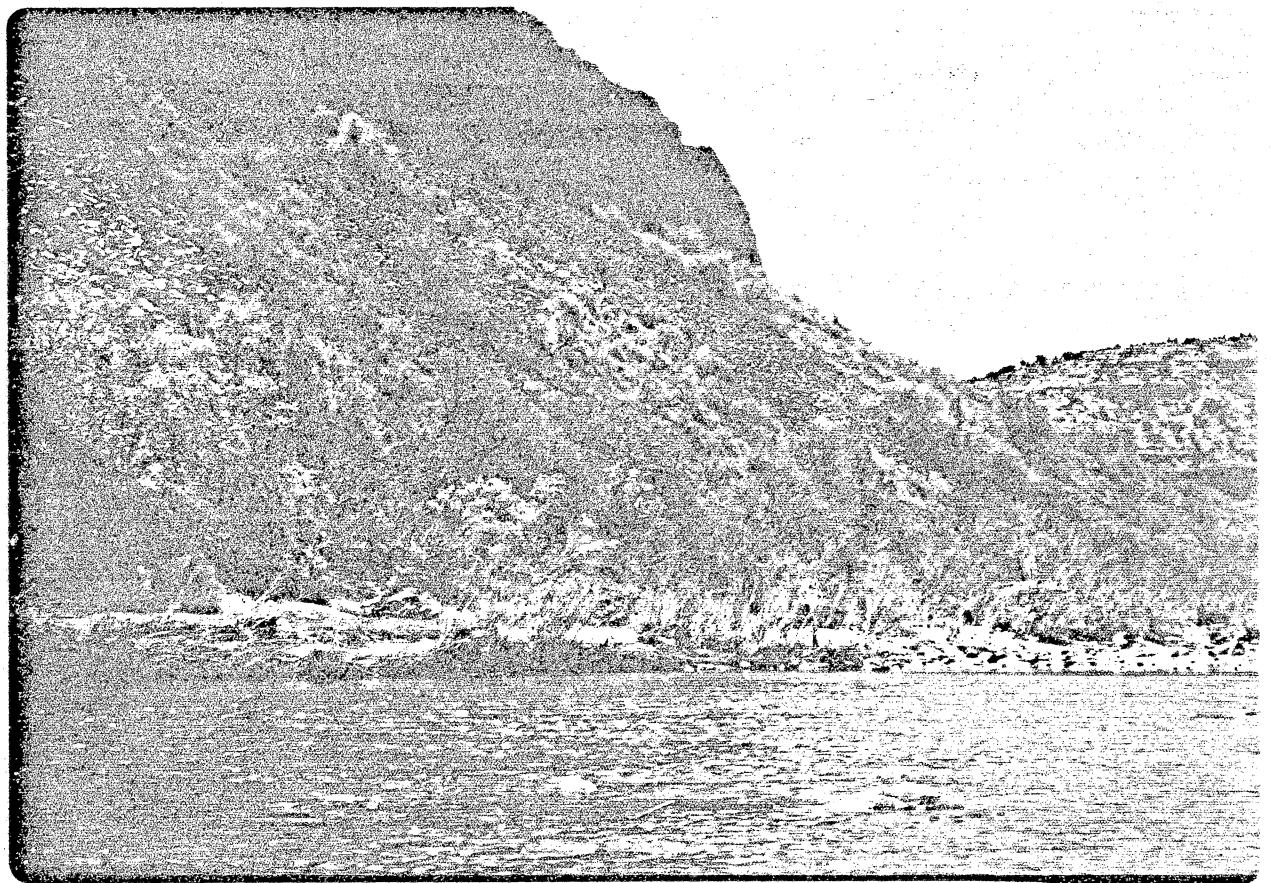
A short range project for fencing the gravel benches below Sycamore Creek is the best means of protecting the only area of high cottonwood opportunity on the Upper Verde River. Planting the benches after fencing would also be part of this short range project.

Short Range Cost

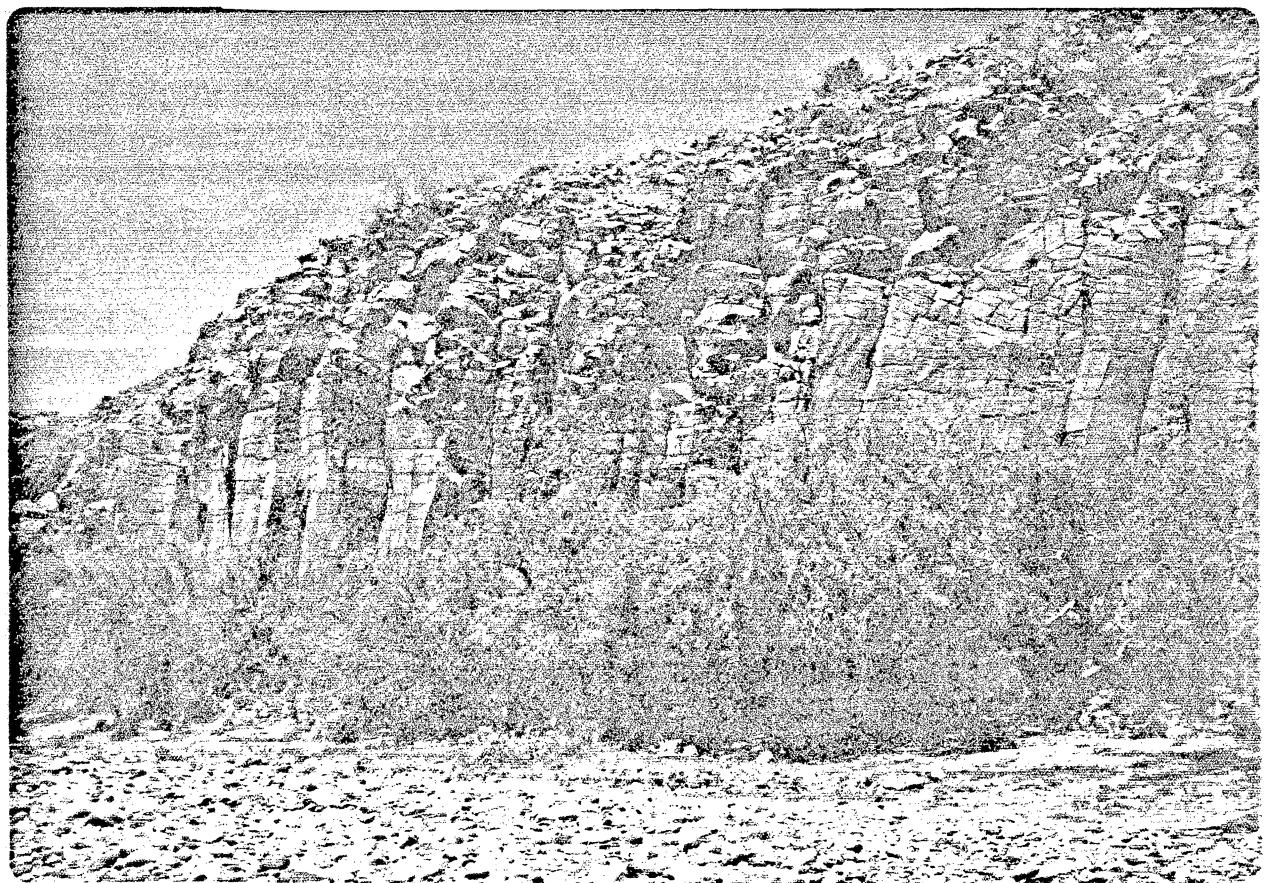
Fencing	\$4,000
Water gaps (2)	16,000
Planting	8,000
	<u>\$28,000</u>

Long Range Costs

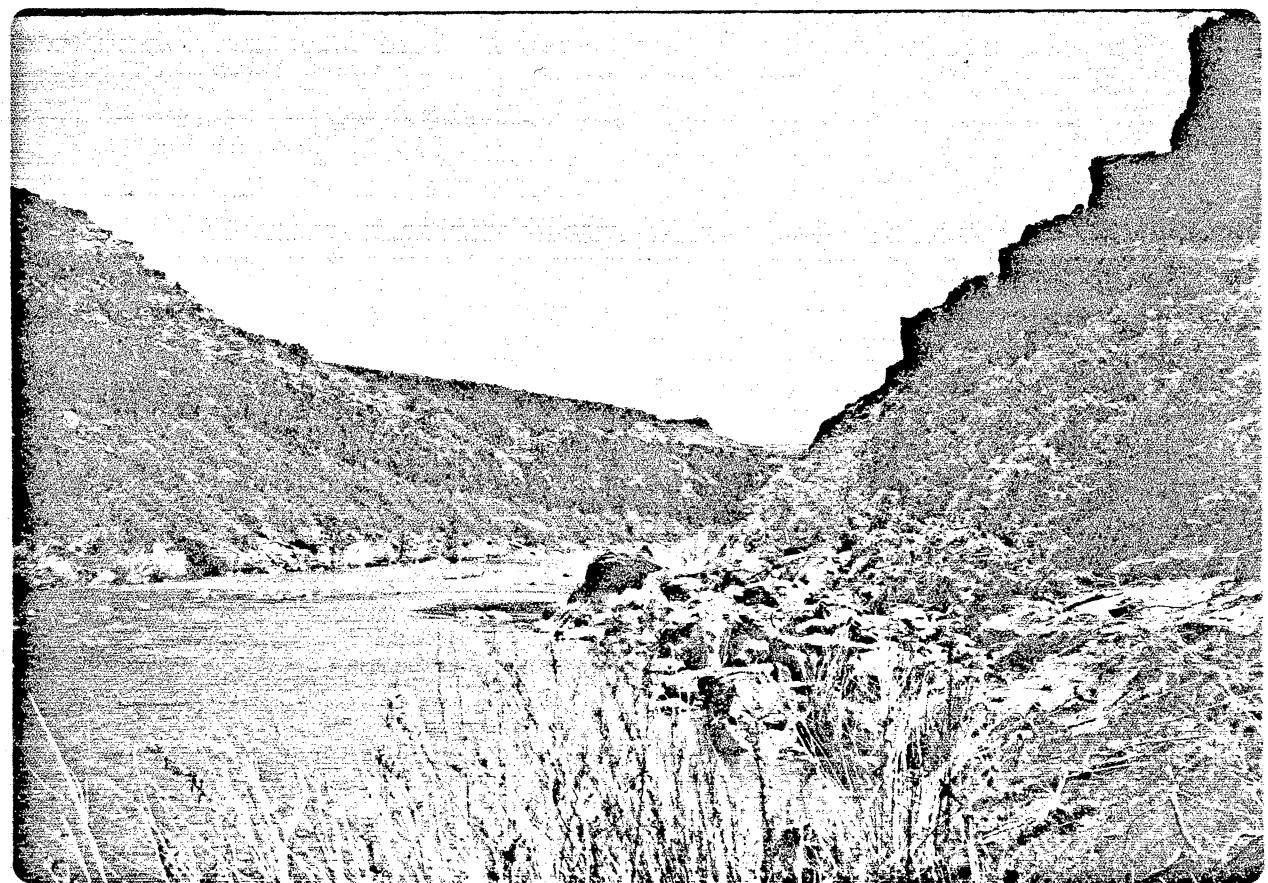
Fence	\$ 2,000
Water Wells (3)	60,000
Revegetation	45,000
	<u>\$107,000</u>



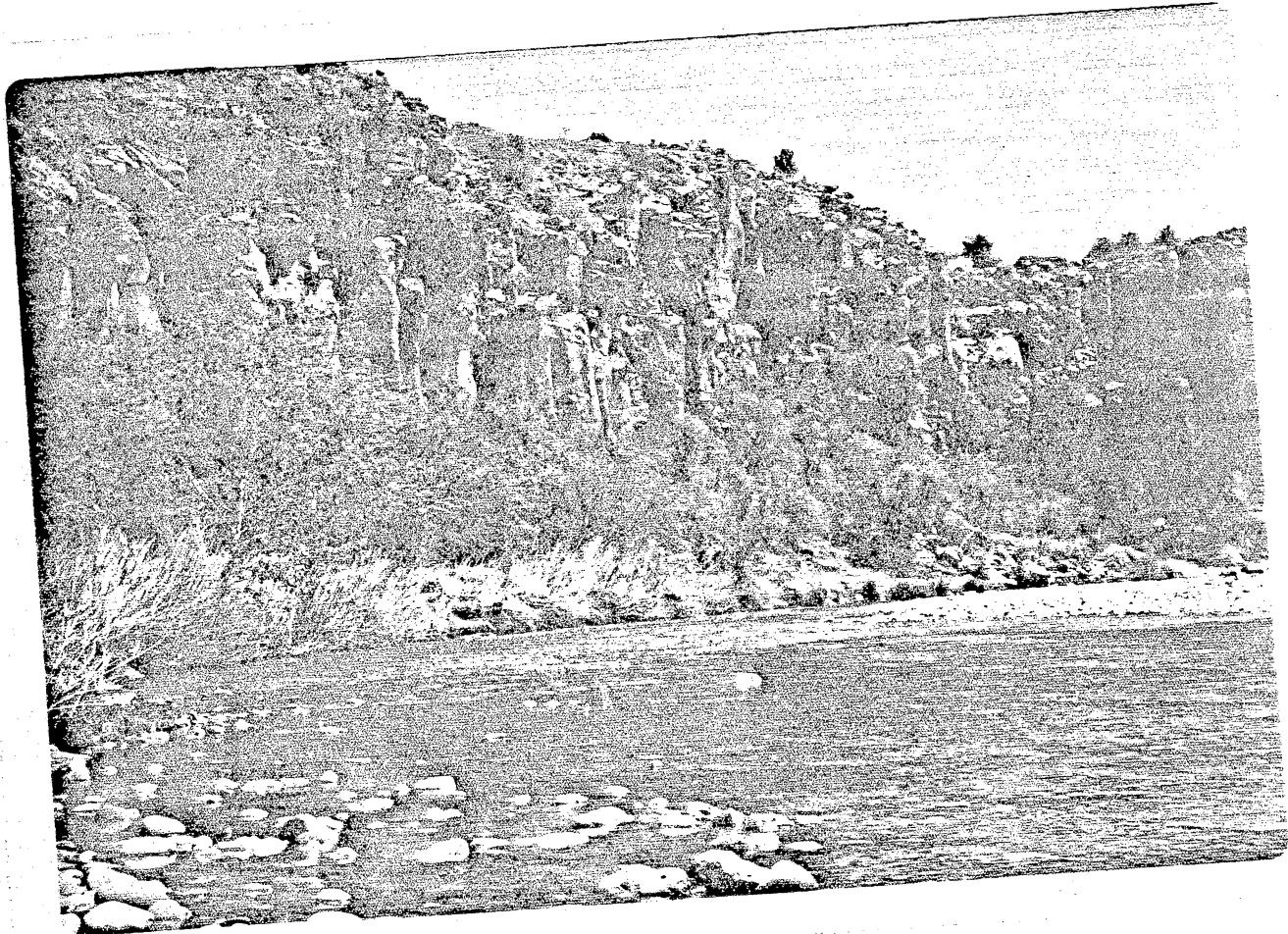
Antelope Hills Allotment. Talus slope to within 20 feet of the Verde River.
Area that is not talus exhibited evidence of severe scouring.



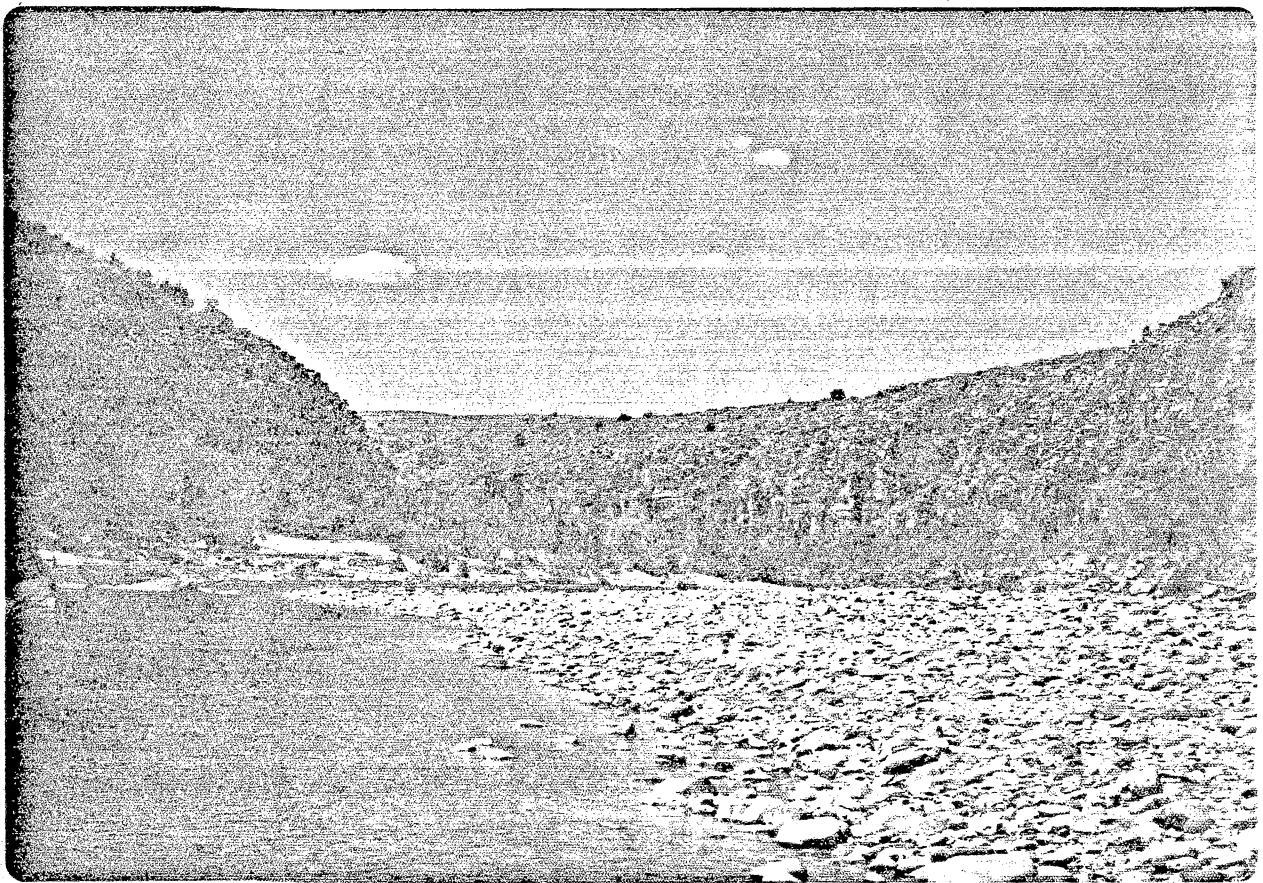
River's edge to rocky rubble area to Basalt Cliffs.



Antelope Hills Allotment. Note talus slopes and lack of any alluvial benches. Most of the Verde River above Packard Ranch resembles this.



Marginal tree growth is ash and box elder with no cottonwood or sycamore regeneration evident.



The Prescott's best cottonwood regeneration opportunity exists on benches, such as this, deposited below Sycamore Creek. Here is a suitable bar area now inhabited by mesquite, ash, and box elder.

8. Squaw Peak Allotment

The Squaw Peak Allotment borders on the Verde River for 2 miles in Sections 34 and 35, T.13N., R.5E. The portion of the river that contacts the allotment is of high eagle potential because of 28 acres of gravel benches along either side of the river.

Allotment Information

Permitted number and season	<u>90 yearlong</u>
Permitted grazing (A.U.M.'s)	<u>1080</u>
Estimated grazing capacity (A.U.M.'s)	<u>900</u>
Range analysis date	<u>1977</u>
Adjustments needed	<u>-180</u>
Range mgmt. plan current?	<u>No</u>
Completion target w/current funding	<u>FY 79</u>
Completion target w/increased funding	<u>FY 79</u>
Range analysis current?	<u>Yes</u>
Estimated range improvement costs	<u>\$42,000</u>
Is eagle habitat present?	<u>Yes</u>
What is habitat potential?	<u>High</u>

Eagle Habitat Enhancement

Short Range (1-3 years)	
Fence material and construction	<u>\$5,000</u>
Planting material and labor	<u>15,000</u>
	<u>\$20,000</u>
Long Range (3-10 years)	
Fence material and construction	<u>\$30,000</u>
Fence maintenance	<u>4,000</u>
	<u>\$34,000</u>

Above costs include fencing cattle from river on National Forest Service lands and fencing trespass cattle off of private land where stock have access to river.

9. Brown Springs Allotment

The Brown Springs Allotment borders on the Verde River for 12 miles. Cattle have access to the river for 8 miles of the 12 miles possible from Sections 35, T.13N., R.5E. to Section 32, T.11N., R.5E. The Brown Spring Allotment has high eagle potential because of the current nesting territory 3 miles up river from Brown Springs and 23 acres of suitable gravel benches.

Allotment Information

Permitted number and season	<u>176 yearlong</u>
Permitted grazing (A.U.M.'s)	<u>2112</u>
Estimated grazing capacity (A.U.M.'s)	<u>1080</u>
Range analysis date	<u>1965</u>
Adjustments needed	<u>-1032</u>
Range analysis current	<u>No</u>
Completion target w/current funding	<u>FY 82</u>
Completion target w/additional funding (1 Range Con (GS-7), \$20,000)	<u>FY 81</u>
Range mgmt. plan current?	<u>Yes</u>
Estimated range improvement cost	<u>\$1,000</u>
Is eagle habitat present?	<u>Yes</u>
What is habitat potential?	<u>High</u>

Eagle Habitat Enhancement

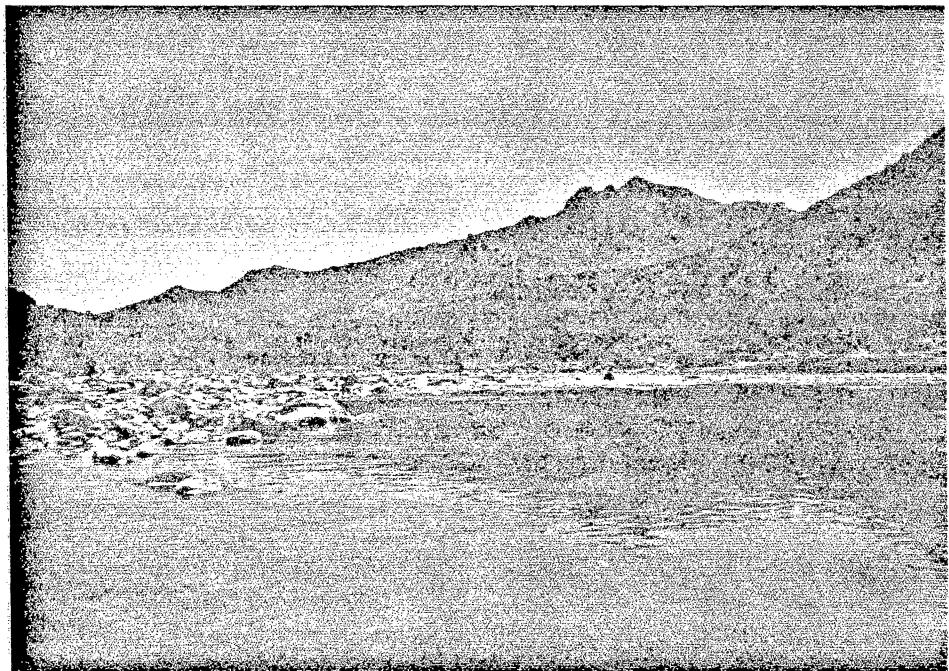
Short Range (1-3 years)	
Fence material and construction	<u>\$20,000</u>
Water facility construction	<u>30,000</u>
Planting material and labor	<u>10,000</u>
	<u>\$60,000</u>

Long Range (3-10 years)

Short range improvements are sufficient to meet eagle needs if maintained.

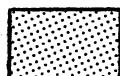


Brown Springs Allotment - One and one-half miles below Beasley Flat. This large bench of cottonwood and sycamore has a good potential for regeneration and maintenance of quality vegetation.

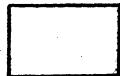


Brown Springs Allotment - Large bench below Brown Spring Ranch proper which has a high potential for quality riparian vegetation.

PREScott NATIONAL FOREST- MAP LEGEND



— PRIVATE LAND



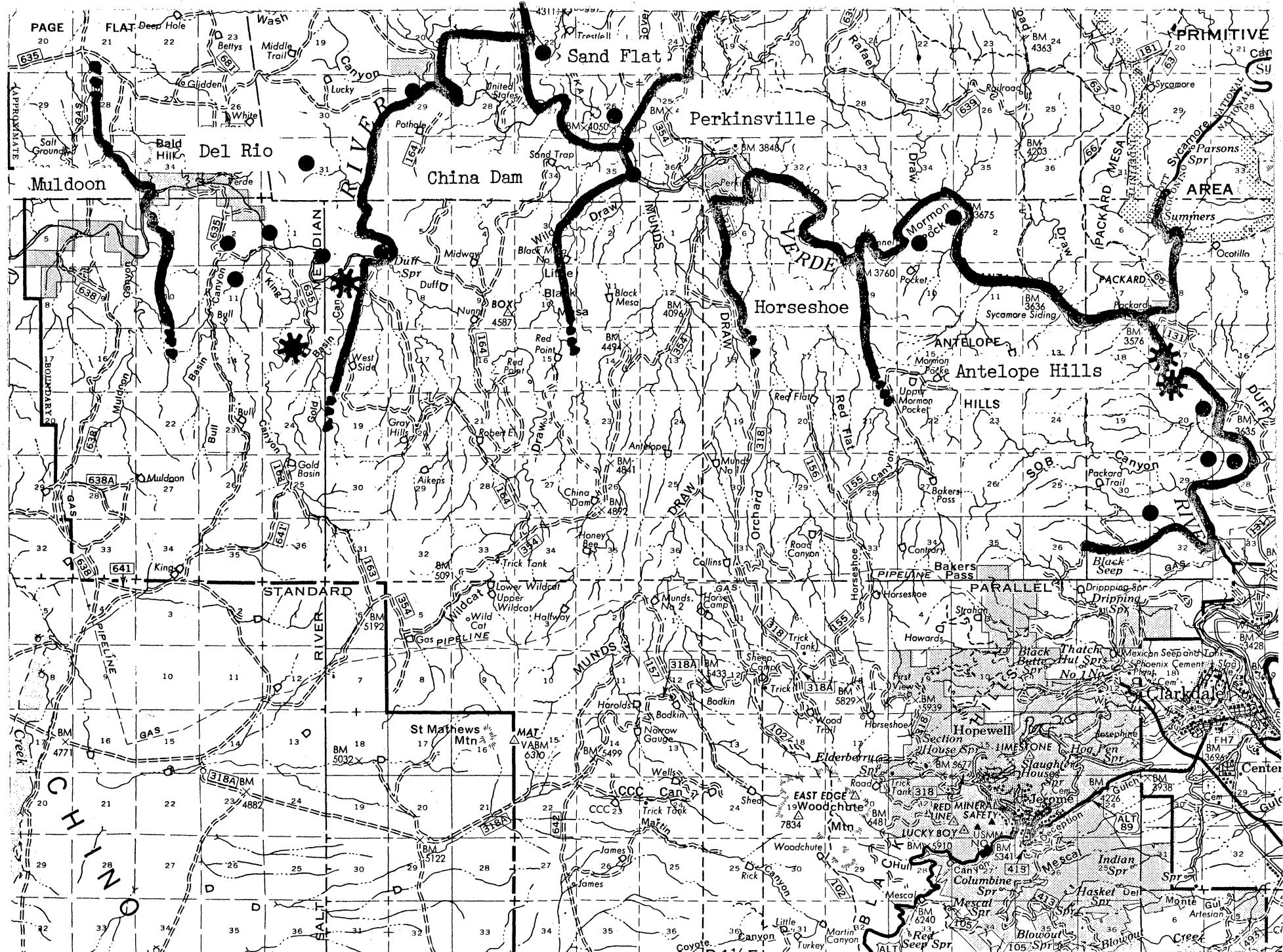
— NFS LAND

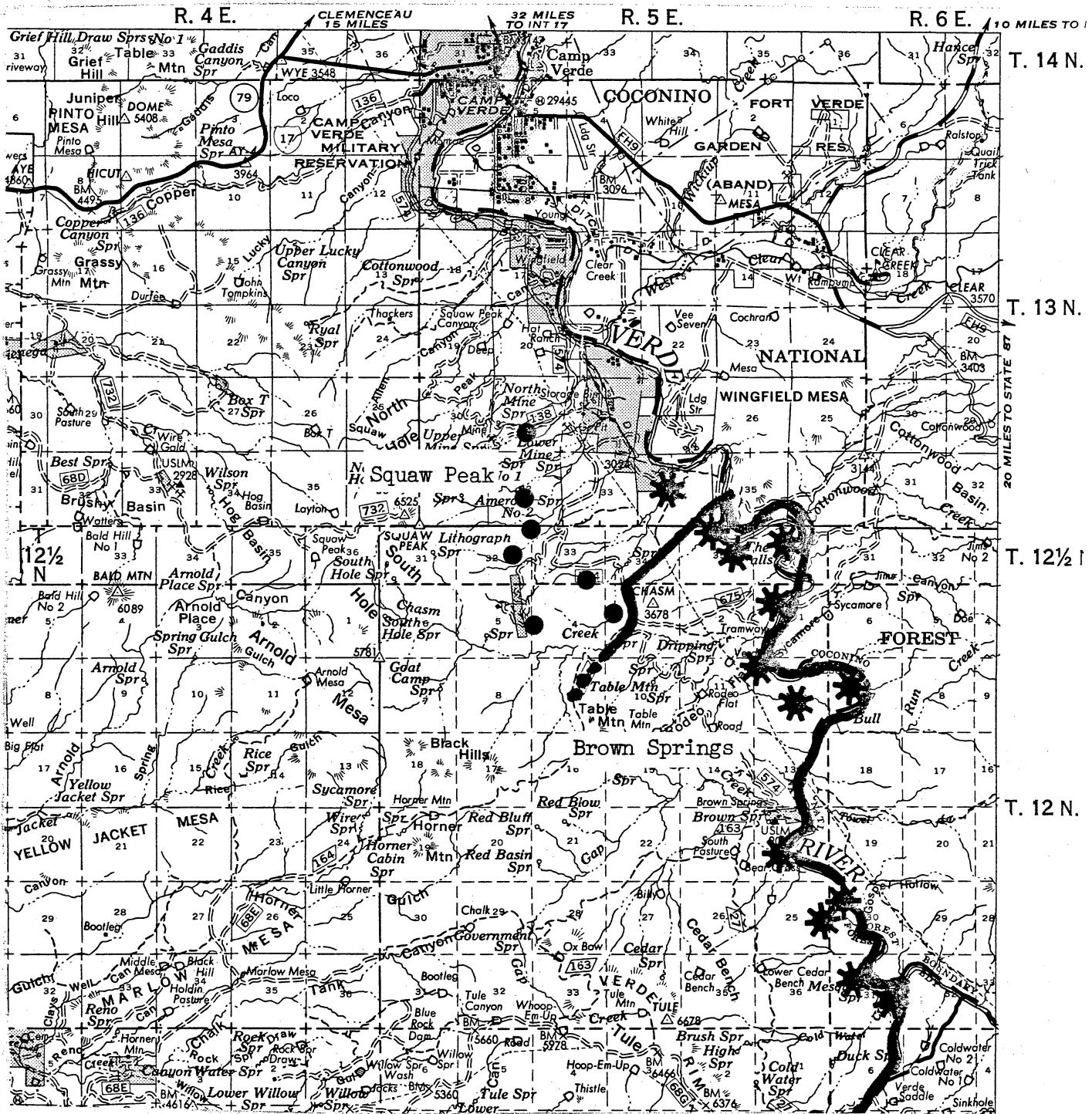


— PROJECT LOCATION(i.e. fencing,water gap,windmill,or
trick tank,vegetation manipulation) (* -short range,
● -long range)

T. I4 N.

— GILA AND SALT RIVER MERIDIAN





IV. TONTO NATIONAL FOREST

A. Short Range Program

It is recognized that the best solution to the riparian-grazing conflict is good range management. However, this will take some time to fully implement. There are some things that can be done in the interim that will begin to produce tangible benefits. These generally consist of protective fencing for the establishment of cottonwood trees or protective fencing and planting of nursery stock or other propagation efforts. Some plantings will need watering and some will have to be planted where watering will not be necessary. Several techniques have been proposed and are being investigated as to feasibility and practicality. The Tonto is working with the Rocky Mountain Station and Arizona State University on some of these techniques. Dr. Ward Brady of the Range Department is planting various cuttings in subirrigated or low areas where additional watering is not required. Last years experimental cottonwood plantings in the Blue Point area along the Lower Salt have sprouted and are doing well so far. Fencing projects to protect natural cottonwood and willow regeneration in the Bartlett nest territory got washed out in last December's high water flows.

Dr. Robert Ohmart is currently working on a planting and watering project on the Verde River. Rooted, containerized, six foot tall cottonwoods will be planted and watered with a drip irrigation system until their root systems have grown deep enough to be weaned off the irrigation system. The advantage in this technique is that alluvial benches higher and farther from the river can be planted with cottonwood trees. These higher benches are not scoured as violently by high flows as the sites nearer to the existing channel. Fence maintenance should be lower and sapling survival should be higher. The cost of watering systems installation and operation will make these kinds of projects very expensive. This technique will be restricted to the more accessible sites.

Another technique that can be used in some areas is the deep planting of large cuttings. Experimental planting of 8-12 foot long cottonwood whips has been successfully done on the lower Colorado River. A hole down to ground water is made with post hole diggers. The cutting is thus planted with its feet in water. This has real possibilities in some areas. The Tonto is currently investigating a possible contract this fiscal year for implementing this technique in Bald Eagle habitat.

Each potential regeneration site has its own characteristics which will determine the best technique. This will be determined during detailed project planning for each site. For purposes of this proposed program only the location, general size and characteristics will be identified. Where possible a photo of the potential site is included. The maps at the end of the Tonto section show the location of the short range projects and their juxtaposition to the nesting territories.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-CC-12

PRIORITY: 1

ALLOTMENT: Bartlett

ACRES: 7 plots
18 acres

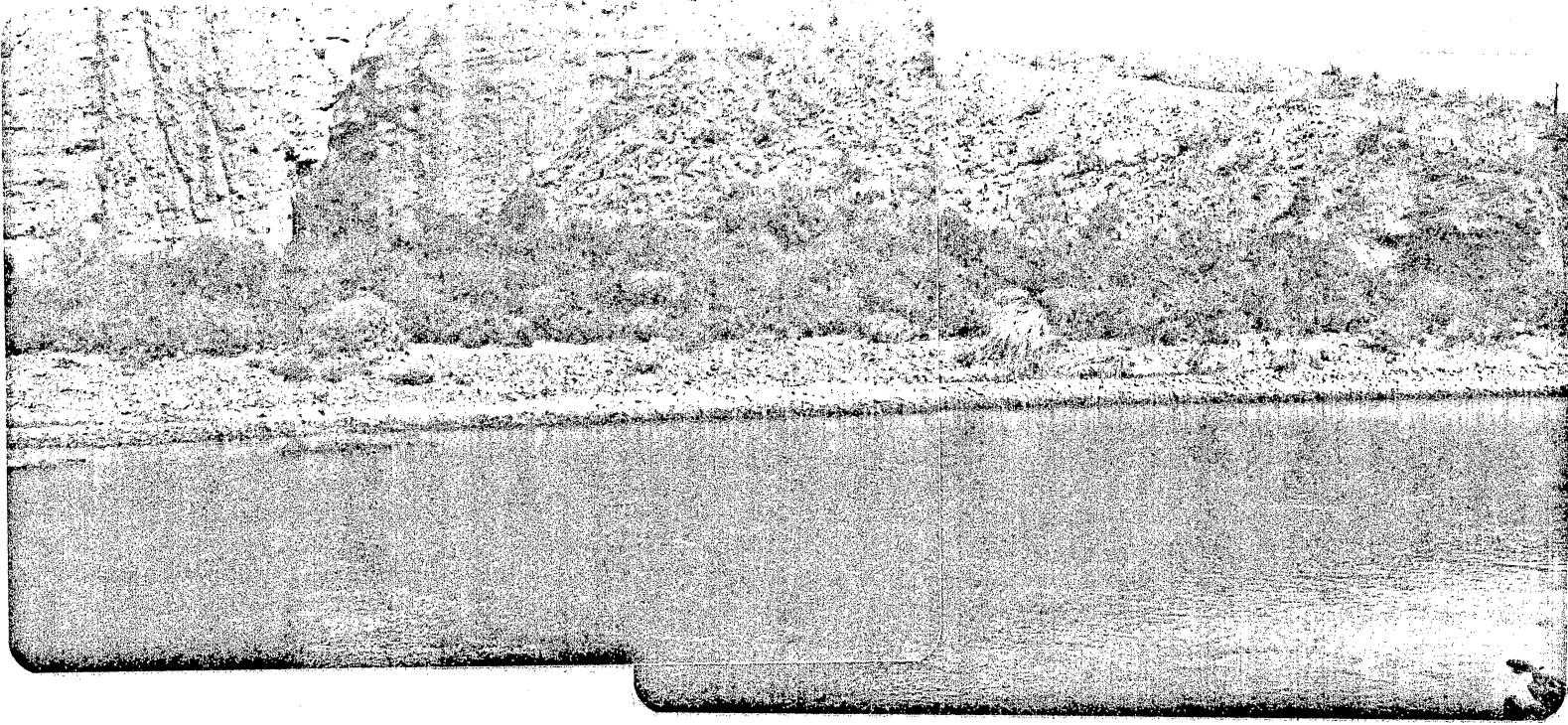
LOCATION: Sections 6 and 8, T.5N., R.7E. (2 miles below Bartlett Dam)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Honey Mesquite III and IV.

PROBLEM: There is only one remaining mature cottonwood tree in the Bartlett nest territory. It was last used as a nest tree in 1976. Destruction of cottonwood seedlings by livestock has been well documented. Allotment management is a long way off.

SOLUTION AND COST: Protective fencing, planting and watering. Access good by ford below dam or helicopter in winter. Access limited by annual eagle nest activity.

Well and Pump	-	\$2,000
3½ miles of fence (accessible)	-	12,000
Planting and Watering	-	<u>5,000</u>
TOTAL FIRST YEAR COST	-	\$19,000



43

T-CC-12

This alluvial bench in the Bartlett nest territory is scheduled for protective fencing and planting if necessary.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO: T-CC-8

PRIORITY: 2

ALLOTMENT: Chalk Mountain

ACRES: 100

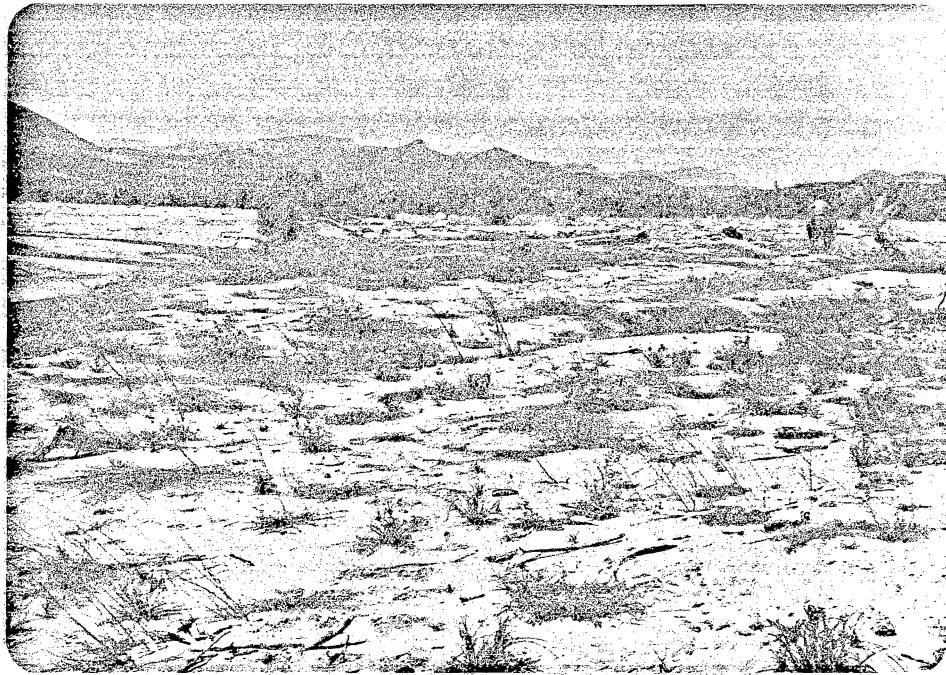
LOCATION: S $\frac{1}{2}$, S.10 and N $\frac{1}{2}$, S.15, T.8N., R.6E. (North end of Horseshoe Reservoir)

VEGETATIVE COMMUNITY & STURCTURE TYPE: 50 acres cottonwood willow II,
50 acres honey mesquite IV.

PROBLEM: Lack of cottonwood trees in the Horseshoe nesting territory. Cottonwood willow II is largely represented by willow. Last tree nest in 1977 was in a cottonwood. Now, no suitable trees are available. 1979 nesting attempt was in an artificial tripod.

SOLUTION AND COST: Planting of cottonwood trees on the alluvial benches above Horseshoe Reservoir high water line. Watering for establishment may be necessary.

Well and Pump (accessible)	-	\$5,000
Planting and Watering (accessible) 300 trees	-	<u>8,000</u>
TOTAL FIRST YEAR COST	-	\$13,000



T-CC-8

The upper end of Horseshoe Reservoir is the location of a Bald Eagle nest territory. Trees planted here will provide nest and foraging perches in the future.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO. T-P-3

PRIORITY: 3

+

ALLOTMENT: Cedar Bench

ACRES: 20

LOCATION: NE $\frac{1}{4}$, NW $\frac{1}{4}$, S.20, T.11N., R.7E. (North side mouth of East Verde at Verde)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Honey Mesquite, Type III.

PROBLEM: Apparently good sites for cottonwood trees within foraging and nesting area of East Verde territory. Scattered cottonwood and willow trees indicate capability of site to support larger trees.

SOLUTION AND COST: Protective fencing and planting of cottonwood. Access by helicopter, boat 6 miles down from Childs Road access or 14 miles by Pack Trail #11.

1 mile of fence (remote)	- \$5,000
Plant 100 trees (remote)	- 5,000
Maintenance (fence only)	- <u>100/yr.</u>
TOTAL FIRST YEAR COST	- \$10,000



T-P-3

This site is at the confluence of the East Verde and Verde Rivers. This alluvial bench has very high potential. It will be important to control livestock use to allow the area to express its full potential.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-G-2

PRIORITY: 4

ALLOTMENT: Hicks-Pikes Peak

ACRES: 50

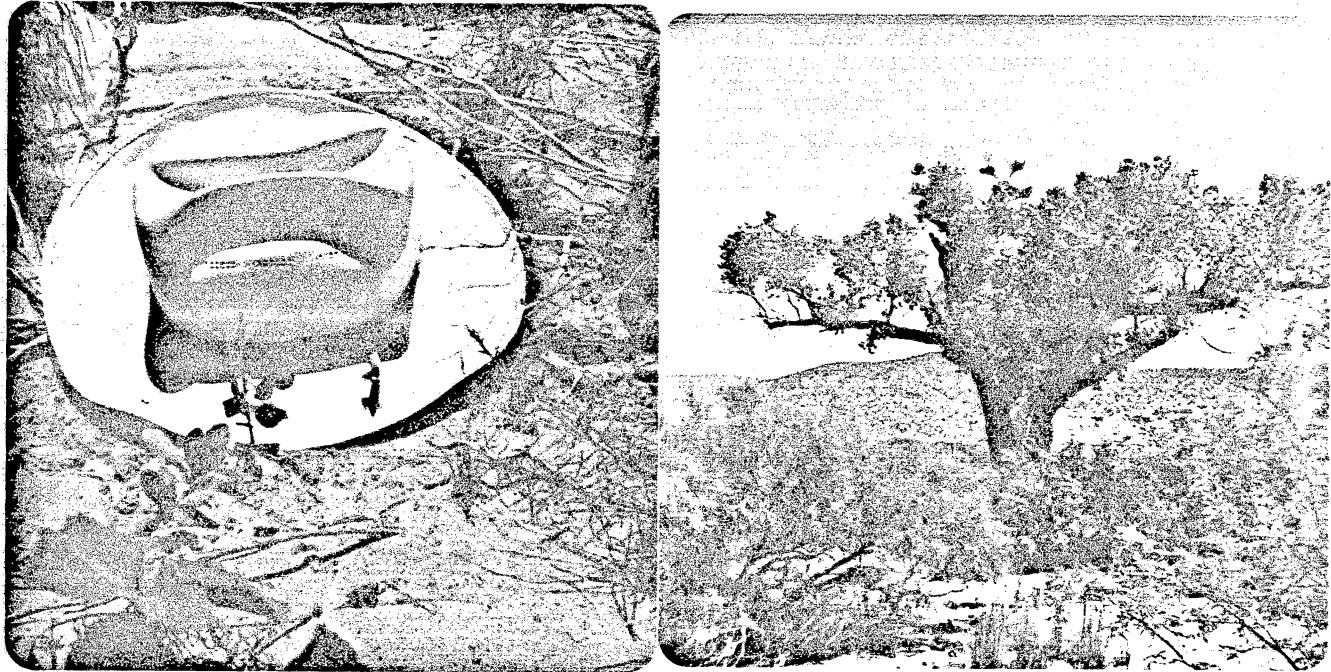
LOCATION: N. $\frac{1}{2}$, S.28, T.4N., R.15E. Redmond Flat

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Honey Mesquite V.

PROBLEM: Only a few mature cottonwoods remain in the Redmond Flat nesting territory. Heavy grazing destruction of cottonwood seedlings. Access within 1 mile Road 644 down Redmond Wash.

SOLUTION AND COST: Protective fencing and plant if natural regeneration does not occur. Indication is natural regeneration may be consistent.

2 miles of fence (remote)	-	\$9,000
Plant 50 trees	-	2,000
Maintenance (fence only)	-	<u>200/yr.</u>
TOTAL FIRST YEAR COST	-	\$11,000



T-G-2

Protective fencing is planned to protect the natural regeneration of cottonwood trees in the Redmond Flat nesting territory. Planting is planned to augment the natural regeneration. There are only a few mature trees left. This one is the site of a Great Blue Heron Rockery.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-G-1

PRIORITY: 5

ALLOTMENT: Hicks-Pikes Peak

ACRES: -

LOCATION: Redmond Wash down to 288 Bridge, Upper Salt River

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Salt Cedar III & IV

PROBLEM: Lack of perch and foraging trees in the Pinal nest territory upstream.

SOLUTION AND COST: Plant browse resistant cottonwood cuttings in selected spots along the Salt River from Redmond Wash to 288 Bridge. Especially in the Pinal Creek nesting territory.

Plant 100 cottonwood cuttings - \$4,000

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-G-7

PRIORITY: 6

ALLOTMENT: Chrysotile

ACRES: 5

LOCATION: N. $\frac{1}{2}$, S.17, T.6N., R.17E.

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Honey Mesquite III.

PROBLEM: Lack of cottonwood trees. One mature tree remains. No younger age classes. Heavy livestock use of riparian areas is eliminating cottonwood regeneration. This area is in the Cibique nest territory.

SOLUTION AND COST: Protective fencing and planting of cottonwood trees. Good access from Highway 60 along north side of river.

1 $\frac{1}{2}$ miles of fence	-	\$4,000
Planting	-	2,500
Fence maintenance	-	<u>200/yr.</u>
 TOTAL FIRST YEAR COST	-	 \$6,500

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO: T-CC-13

PRIORITY: 7

ALLOTMENT: Bartlett

ACRES: -

LOCATION: Sections 5, 6, 7, 8 and 17, T.5N., R.7E.

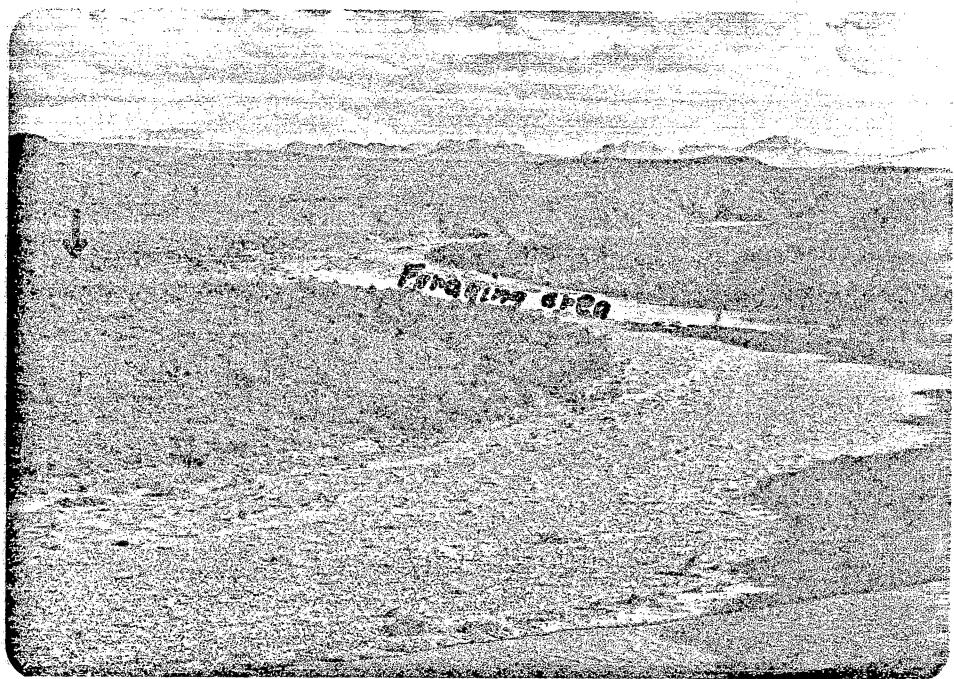
VEGETATIVE COMMUNITY & STRUCTURE TYPE: Honey Mesquite III and IV.

PROBLEM: Lack of perch and foraging trees along the Verde River in the Bartlett Bald Eagle nesting territory. Continuing destruction of cottonwood seedlings prevents natural regeneration.

SOLUTION AND COST: Planting large browse resistant cuttings of cottonwood 12 feet long and 3-4" in diameter along the river edge in selected locations near known perching and foraging areas.

Plant 300 large cottonwood
cuttings - \$8,500.

See T-CC-8.



T-CC-13

There is a noticeable lack of nest, roost and foraging perches in the Bartlett nest territory. Planting of large browse resistant cottonwood cuttings will provide future habitat.

TONTO NATIONAL FOREST

Grazing Conflicts in Bald Eagle Nesting Habitat

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-CC-9

PRIORITY: 8

ALLOTMENT: Cedar Bench, Chalk Mountain, Skeleton Ridge **ACRES:** -

LOCATION: 4 miles of Verde River near East Verde nesting territory.

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Primarily Willow II. Some Honey Mesquite III.

PROBLEM: Lack of suitable foraging and perch trees adjacent to the river in the East Verde nest territory.

SOLUTION AND COST: Plant large cuttings of cottonwood in select spots near good foraging areas on Verde River for about 2 miles up and downstream of the East Verde nest. Plant deep enough so that watering is not necessary.

Plant 300 cotton trees - \$15,000
use large browse resistant
or protect smaller ones.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-TB-1

PRIORITY: 9

ALLOTMENT: Poison Spring

ACRES: 30 acres

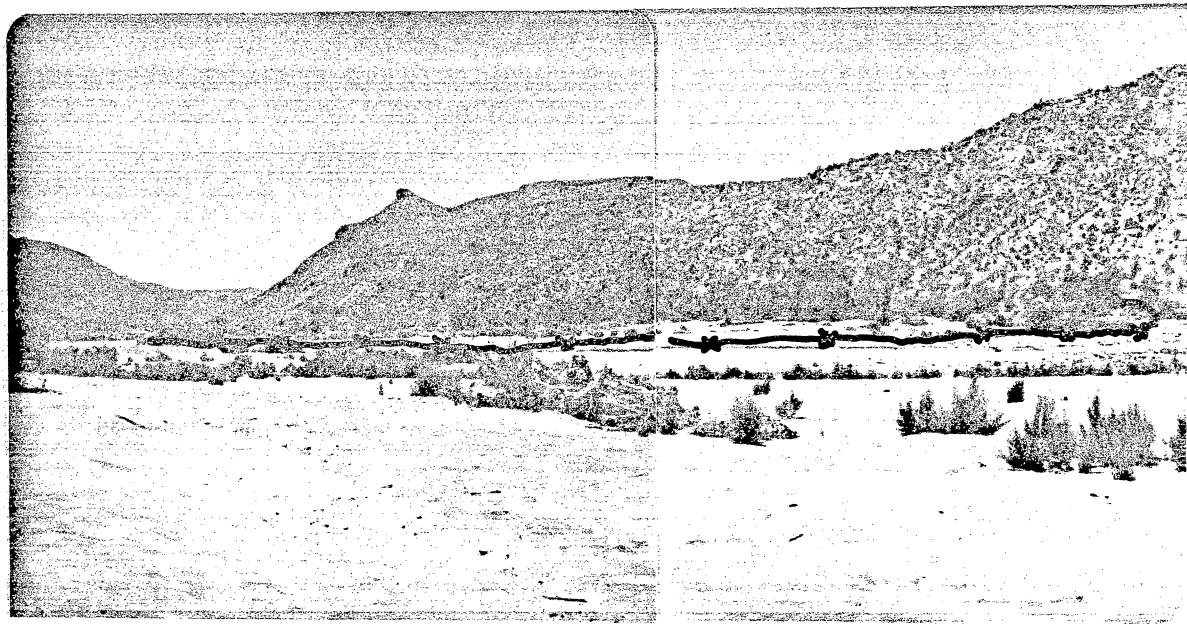
LOCATION: NW^{1/4}, S.28, T.4N., R.15E. (Downstream end of Redmond Flat)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Cottonwood Willow II, Salt Cedar III.

PROBLEM: Lack of seedling and sapling cottonwood to replace existing trees in the Redmond Flat foraging area.

SOLUTION AND COST: Protective fencing and planting. Access within one mile by jeep from Road 644 down Redmond Wash.

1½ miles of fence (remote)	-	\$8,000
Plant 100 trees (remote)	-	5,000
Maintenance (fence only)	-	<u>200/yr.</u>
TOTAL FIRST YEAR COST		- \$13,000



T-TB-1

This stand is on the Poison Spring Allotment across from Redmond Flat. Protection fencing and planting will ensure perpetuation of this important grove. These cottonwoods are utilized by the Redmond Flat Nesting Bald Eagles.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-P-1

PRIORITY: 10

ALLOTMENT: Cedar Bench

ACRES: 9 in
3 stands of
5, 2 & 2.

LOCATION: NE $\frac{1}{4}$, NW $\frac{1}{4}$, S.36, T.11N., R.6E. (1 mile downstream from
confluence of Fossil Creek)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Cottonwood Willow II

PROBLEM: Structure Type II. Community consists of large mature trees mostly willow. No replacement of cottonwood or willow seedlings and in evidence saplings. This is in the East Verde nesting territory. Evidence of heavy use.

SOLUTION AND COST: Protective fencing and planting of cottonwood. Access by helicopter or boat 4 miles south of Childs Road access.

2 miles of fence (remote)	-	\$10,000
Plant 100 trees (remote)	-	5,000
Maintenance (fence only)	-	<u>200/yr,</u>
TOTAL FIRST YEAR COST	-	\$15,000



T-P-1

This shows the alluvial benches in the East Verde nest territory. Protective fencing and planting will maintain and enhance these stands.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-P-2

PRIORITY: 11

ALLOTMENT: Cedar Bench

ACRES: 7 in.
2 stands of
5 & 2

LOCATION: NE $\frac{1}{4}$, SW $\frac{1}{4}$, S.17, T.11N., R.7E. ($\frac{1}{2}$ mile upstream from
confluence of East Verde)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Willow Type II

PROBLEM: Structure Type II. Community is composed of all mature willow
trees with no seedlings or saplings of cottonwood or willow
to perpetuate this stand in the East Verde nesting territory.

SOLUTION AND COST: Protective fencing and planting of cottonwood.
Access by helicopter, boat, 5 miles south of Childs
Road access or 13 miles by Pack Trail #11.

1 $\frac{1}{2}$ miles of fence (remote)	-	\$10,000
Plant 100 trees (remote)	-	5,000
Maintenance (fence only)	-	<u>200/yr.</u>

TOTAL FIRST YEAR COST	\$15,000
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TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO: T-CC-15

PRIORITY: 12

ALLOTMENT: Bartlett

ACRES: 30

LOCATION: NE $\frac{1}{4}$, S.5, T.4N., R.7E. (1 mile downstream from Box Bar)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Cottonwood Willow II, Honey Mesquite III

PROBLEM: Structural Type II indicates a lack of younger age classes. Particular lack of seedling and sapling cottonwood trees. Heavy overgrazing and destruction of cottonwood seedlings has been documented. This is in foraging range of the Ft. McDowell territory.

SOLUTION AND COST: Protective fencing, planting and watering to promote survival of plantings on the higher benches. About 60 acres are available, 30 are proposed.

2 miles of fence	-	\$7,000
Planting and Watering (use box bar well)	-	<u>5,000</u>
TOTAL FIRST YEAR COST	-	\$12,000

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-CC-14

PRIORITY: 13

ALLOTMENT: Bartlett

ACRES: 30

LOCATION: NE $\frac{1}{4}$, SW $\frac{1}{4}$, S.29, T.5N., R.7E. (Across Verde River from Box Bar Ranch)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Cottonwood Willow II

PROBLEM: Structural Type II indicates a lack of younger age classes. Heavy overgrazing in the riparian and destruction of cottonwood seedlings by livestock has been documented. This is in the foraging range of the Ft. McDowell nest territory.

SOLUTION AND COST: Protective fencing, planting and watering to promote survival of plantings on the higher benches. About 400 acres are available, 30 have been fenced to date.

1 mile of fence (accessible)	-	\$3,500
Planting and Watering (Well already in)	-	<u>5,000</u>
 TOTAL FIRST YEAR COST	-	\$8,500



T-CC-14

This grove is dying out at a rapid rate. Protection fencing, planting and watering will be necessary to perpetuate this stand.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-G-3

PRIORITY: 14

ALLOTMENT: Hicks-Pikes Peak

ACRES: -

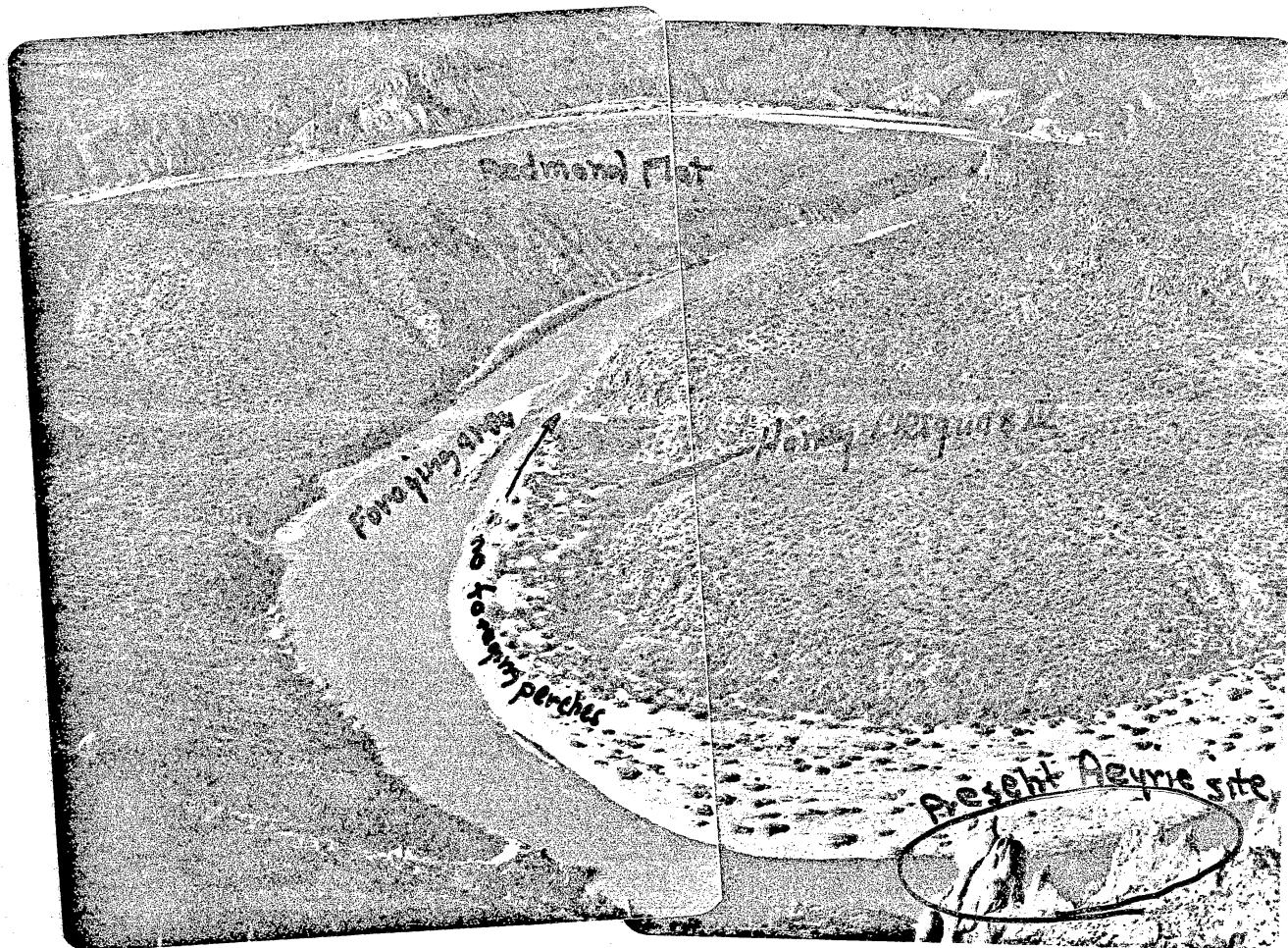
LOCATION: S.28, 33, and 34, T.4N., R.15E.

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Honey Mesquite IV and V. Salt Cedar III.

PROBLEM: Lack of perch and foraging trees along the river edge in the Redmond Flat nesting territory.

SOLUTION AND COST: Planting large browse proof cottonwood cuttings in selected locations along the Salt River in the Redmond Flat nest territory. Access by boat from Horseshoe Bend or within a mile by Road 644 down Redmond Wash.

Plant 50 trees - \$2,000



T-G-3

Nest, foraging and perch trees are noticeably absent in the Redmond Flat nest territory. Planting of large browse resistant cottonwood cuttings in select location should alleviate this problem.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-CC-2

PRIORITY: 15

ALLOTMENT: Chalk Mountain

ACRES: 20

LOCATION: SE¹/₄, NW¹/₄, S.20, T.11N., R.7E. (Southside mouth of East Verde at Verde)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Willow Honey Mesquite Type II.

PROBLEM: Structural Type II with no seedlings or saplings of cottonwood or willow. Old channel to south is now dry, due to the river shifting to the north bank. This channel now presents an excellent seedbed close to ground water. Within East Verde nest territory.

SOLUTION AND COST: Protective fencing and planting cottonwood. Access by helicopter, boat 6 miles down from Childs Road or 14 miles by Pack Trail No. 11.

1 mile of fence (remote)	-	\$5,000
Plant 100 trees (remote)	-	5,000
Maintenance (fence only)	-	<u>100/yr.</u>
 TOTAL FIRST YEAR COST	-	\$10,000

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-M-1

PRIORITY: 16

ALLOTMENT: Goldfields

ACRES: -

LOCATION: 8 miles of Salt River below Stewart Mountain Dam

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Primarily Cottonwood Willow II
and Honey Mesquite III and IV.

PROBLEM: Lack of sapling and pole age classes of cottonwood to replace
old trees being lost to old age, disease and floods. Lack
of perch and foraging trees near good foraging areas.

SOLUTION AND COST: Planting of browse proof cuttings in selected sites
along the Lower Salt River. With priority in areas not
currently favored by recreationists.

Plant 300 trees - \$8,000

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-CC-3

PRIORITY: 17

ALLOTMENT: LX Bar-Red Hills

ACRES: 10

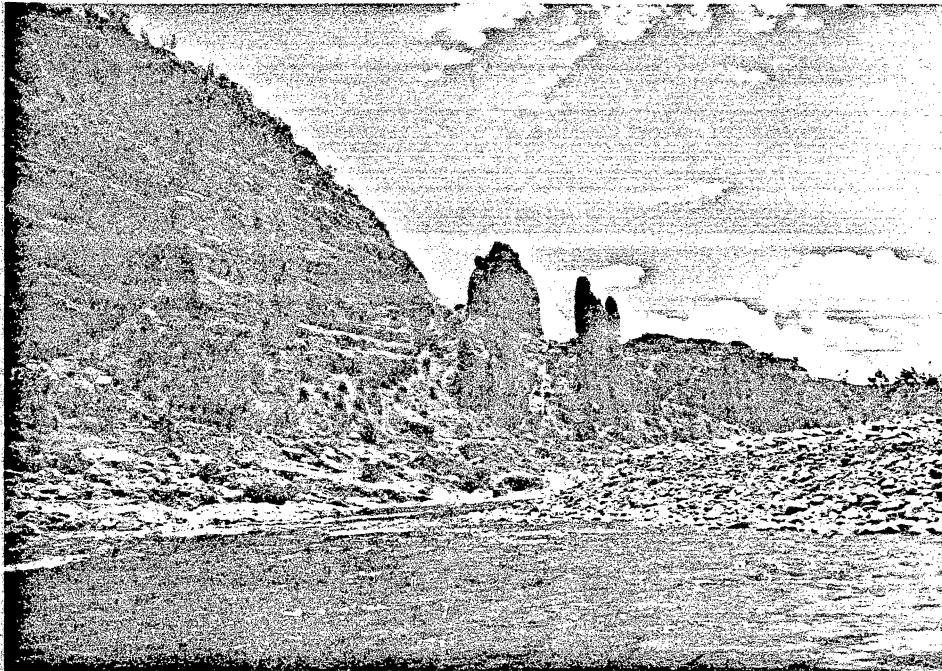
LOCATION: SW $\frac{1}{4}$, SW $\frac{1}{4}$, S26, T.10N., R.6E. (Petes Cabin Mesa)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Willow Ash II

PROBLEM: Lack of cottonwood trees. Site is capable of growing cottonwood trees. An adult Bald Eagle has frequently been seen here. Is a potential nest territory. Evidence of heavy grazing in the riparian zone.

SOLUTION AND COST: Protective fencing and planting of cottonwood. Access by helicopter or 6 miles by Pack Trail #11.

1 mile of fence (remote)	-	6,000
Plant 100 trees (remote)	-	5,000
Maintenance (fence only)	-	<u>200/yr.</u>
TOTAL FIRST YEAR COST	-	\$11,000



T-CC-3

Pete's Cabin Mesa area has high potential as a Bald Eagle nest territory. The pinnacles in the background are typical of those used in other nest territories as aerie sites.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-CC-4

PRIORITY: 18

ALLOTMENT: LX Bar-Red Hills

ACRES: 20

LOCATION: NE $\frac{1}{4}$, NW $\frac{1}{4}$, S.35, T.10N., R.6E. (Upper Canoe Mesa)

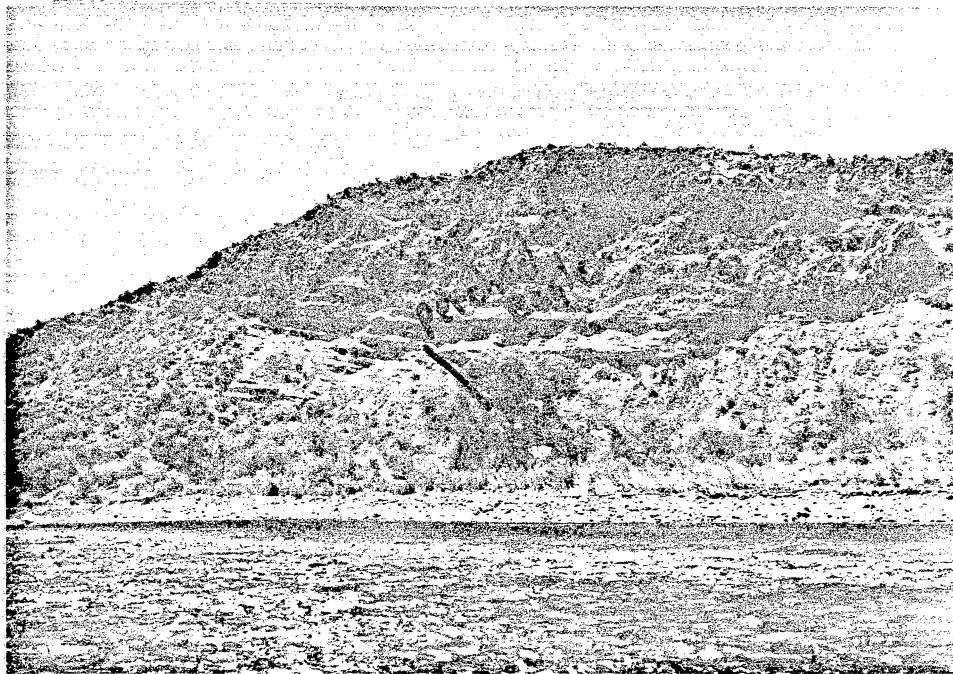
VEGETATIVE COMMUNITY & STRUCTURE TYPE: Willow II

PROBLEM: Structural Type II. Lack of overstory regeneration.

Particular lack of cottonwood trees. Evidence of overgrazing in riparian zone. Adult Bald Eagle seen here frequently. This is in a potential nest territory.

SOLUTION AND COST: Protection fencing and planting of cottonwood. Access by helicopter or 6 miles by Pack Trail #11 from Red Creek.

1 mile of fence (remote)	- \$6,500
Plant 100 trees (remote)	- 5,000
Maintenance (fence only)	- <u>200/yr.</u>
TOTAL FIRST YEAR COST	- \$11,500



T-CC-4

Upper Canoe Mesa represents a 20 acre site where protective fencing and planting of cottonwoods will perpetuate and enhance this area as a potential nest territory.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-CC-5

PRIORITY: 19

ALLOTMENT: LX Bar-Red Hills

ACRES: 10

LOCATION: NE $\frac{1}{4}$, NE $\frac{1}{4}$, S.23, T.9 $\frac{1}{2}$ N., R.6E., (Lower Canoe Mesa)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Willow III

PROBLEM: Structural Type III. No replacement of overstory. Particular lack of cottonwood trees. Evidence of overgrazing in riparian type. Adult Bald Eagle is frequently seen in this area. This is a potential nest territory.

SOLUTION AND COST: Protective fencing and planting of cottonwood. Access by helicopter or 4 miles by Pack Trail #11, from Red Creek.

3/4 mile of fence (remote)	-	\$4,000
Plant 50 trees (remote)	-	4,000
Maintenance, fence only	-	<u>200/year</u>
TOTAL FIRST YEAR COST	-	\$8,000

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-G-5

PRIORITY: 20

ALLOTMENT: Hicks-Pikes Peak

ACRES: 3

LOCATION: NE $\frac{1}{4}$, SW $\frac{1}{4}$, S.23, T.4N., R.15E.

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Honey Mesquite IV

PROBLEM: Lack of cottonwood trees in good riparian areas along the Upper Salt. This area is used by perching Bald Eagles in the off nest season and by wintering migrant Bald Eagles.

SOLUTION AND COST: Protective fencing and planting of cottonwood trees.

$\frac{1}{2}$ mile of fence (remote)	-	\$2,500
Planting 50 trees	-	2,000
Fence maintenance	-	<u>100/yr.</u>
TOTAL FIRST YEAR COST		- \$4,500



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T-G-5

This alluvial bench will be fenced and planted with cottonwood trees.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-G-6

PRIORITY: 21

ALLOTMENT: Hicks-Pikes Peak

ACRES: 15

LOCATION: NW $\frac{1}{4}$, S.21, T.4 $\frac{1}{2}$ N., R.16E. South Gleason Flat

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Cottonwood Willow

PROBLEM: Heavy grazing in good riparian areas is eliminating cottonwood regeneration. This area is used by nesting and wintering Bald Eagles. One adult seen here on June 15, 1979. Could have been adult from Cibicue nest territory.

SOLUTION AND COST: Protective fencing and planting of cottonwood trees. Road access 303A to the river.

1 mile of fence	-	\$4,000
Planting	-	2,000
Fence maintenance	-	<u>200/yr.</u>
 	-	
TOTAL FIRST YEAR COST	-	\$6,000

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-G-8

PRIORITY: 22

ALLOTMENT: Chrysotile

ACRES: -

LOCATION: S.7, 8, 16, 17 and 18, T.5N., R.17E.

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Honey Mesquite and Salt Cedar

PROBLEM: Lack of perch and foraging trees along the Salt River in the Cibique nest territory. Heavy grazing along the riparian areas is preventing cottonwood tree regeneration and replacement.

SOLUTION AND COST: Planting of large browse proof cottonwood cuttings in selected areas along the Salt River in the Cibicue nest territory.

Planting 50 large 12' x 4" cuttings - \$2,500

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-CC-1

PRIORITY: 23

ALLOTMENT: Skeleton Ridge

ACRES: 5

LOCATION: SE $\frac{1}{4}$, NW $\frac{1}{4}$, S.14, T.11N., R.6E. (1 mile downstream from
Childs Power Plant)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: 2 $\frac{1}{2}$ acres Cottonwood Sycamore,
Type II, 2 $\frac{1}{2}$ acres Cottonwood
Honey Mesquite, Type II.

PROBLEM: Structure Type II. Community consists of large mature trees
with no replacement age classes present. Age structure and
vigor of the community is low. There is evidence of heavy use
by cattle. No cottonwood seedlings or saplings present.

SOLUTION AND COST: Protective fencing and planting of cottonwood.
Access by helicopter or boat one mile south of
Childs Road access.

1 mile fencing (remote)	-	\$5,000
Plant 50 trees (remote)	-	2,000
Maintenance - fence only	-	<u>100/yr.</u>
TOTAL FIRST YEAR COST	-	\$7,000



T-CC-1

The bench in the background has high potential for cottonwood growth. At present there are no seedlings or saplings. All trees in the stand are large and, in some cases, decadent.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-CC-6

PRIORITY: 24

ALLOTMENT: LX Bar-Red Hills

ACRES: 15

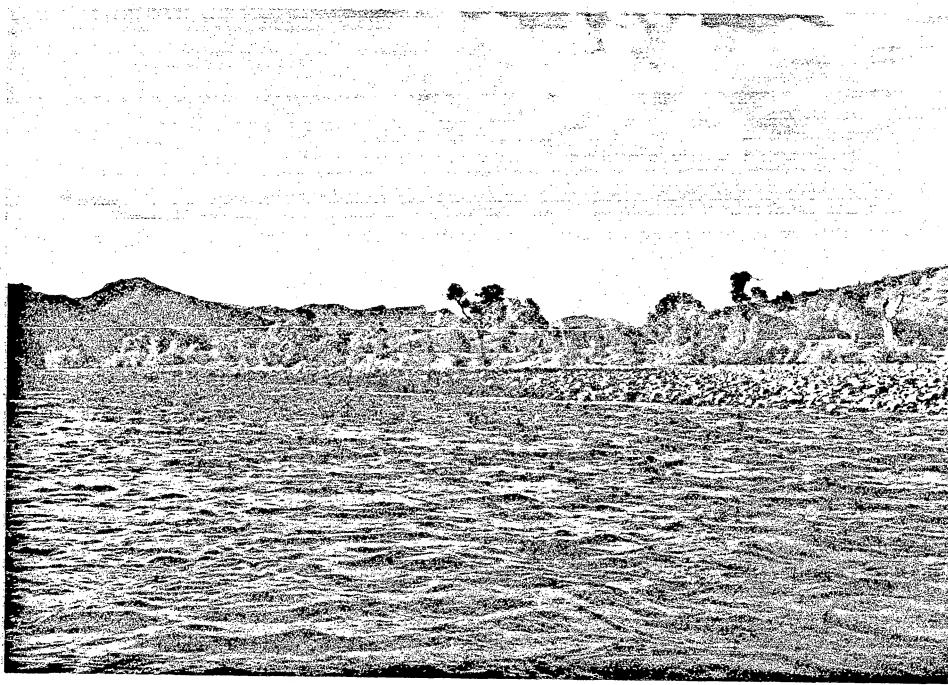
LOCATION: SE $\frac{1}{4}$, NW $\frac{1}{4}$, S.10, T.9N., R.6E. (2 miles down from Red Creek)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Cottonwood Willow II

PROBLEM: Structural Type II. No replacement of overstory trees as evidenced by the lack of cottonwood and willow seedling and saplings. Evidence of heavy livestock use in riparian areas.

SOLUTION AND COST: Protective fencing and planting of cottonwood. Access by helicopter or jeep road access within $\frac{1}{2}$ mile by Red Creek.

1 mile fence (remote)	-	\$5000
Planting 100 trees (remote)	-	5000
Maintenance, fence only	-	<u>200/yr</u>
 TOTAL FIRST YEAR COST	-	\$10,000



T-CC-6

This stand of cottonwood willow, Type II, is not replacing itself. Protective fencing and planting will insure perpetuation of this stand.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-CC-7

PRIORITY: 25

ALLOTMENT: LX Bar-Red Hills

ACRES: 45

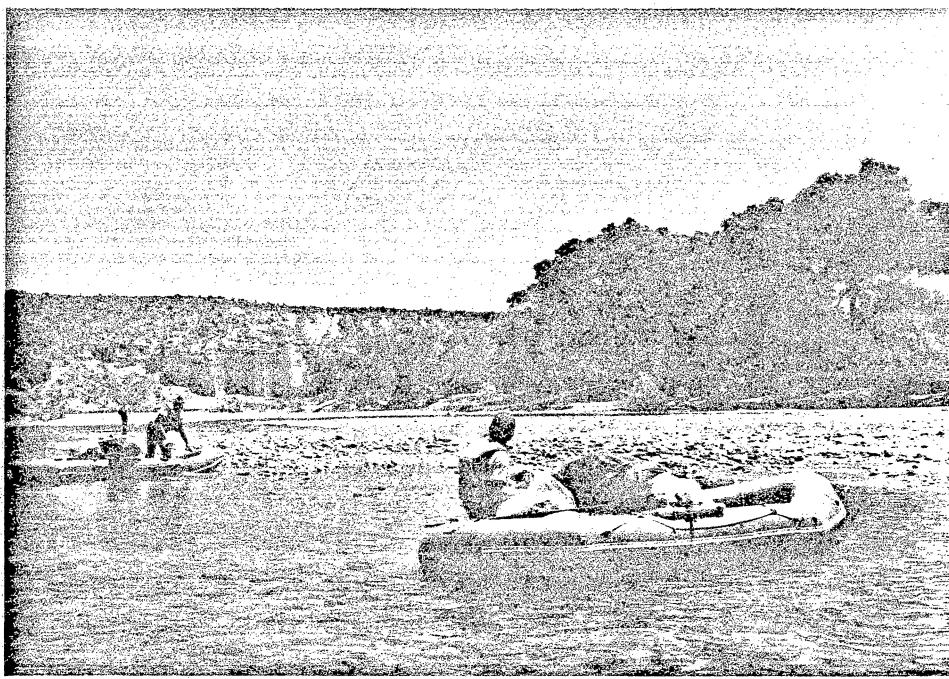
LOCATION: NW $\frac{1}{4}$, SE $\frac{1}{4}$, S.23, T.9N., R.6E.

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Cottonwood Willow II, Willow Ash II and Honey Mesquite III

PROBLEM: Structural Type II indicates a lack of younger age classes. Particular lack of replacement cottonwood and willow seedlings and saplings. Evidence of heavy livestock use in riparian areas. Overstory cottonwoods are very old and decadent.

SOLUTION AND LOST: Protective fencing and planting of cottonwood. Access by helicopter or 1½ miles by Pack Trail No. 11 from Sheep Bridge.

1½ miles of fence (remote)	-	\$7500
Plant 200 trees (remote)	-	7000
Maintenance (fence only)	-	<u>300/yr.</u>
TOTAL FIRST YEAR COST	-	\$14,500



T-CC-7

This is the edge of a large alluvial bench just above Sheep Bridge. The lack of natural cottonwood regeneration is resulting in a nearly pure stand of mesquite.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-CC-11

PRIORITY: 26

ALLOTMENT: Sears Club

ACRES: 15

LOCATION: NW $\frac{1}{4}$, S.19, T.7N., R.7E (1 mile south of Johnson Ranch)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Cottonwood Willow II and Honey Mesquite IV

PROBLEM: Structural Type II indicates a lack of younger age classes. There is a particular lack of cottonwood seedlings and saplings. There is evidence of heavy grazing pressure in the riparian areas causing the destruction of cottonwood seedlings.

SOLUTION AND COST: Protective fencing, planting and watering of cottonwood. Access is fairly good from Road 161 except during high releases from Horseshoe which makes crossing difficult.

1½ miles of fence (access) -	\$5,000
Well and Pump -	2,000
Planting and Watering -	<u>5,000</u>
TOTAL FIRST YEAR COST -	\$12,000

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-CC-10

PRIORITY: 27

ALLOTMENT: Sears Club

ACRES: 50

LOCATION: SE^{1/4}, S13, T.7N., R.6E., (Just below Horseshoe Dam)

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Cottonwood Willow II and Honey Mesquite IV

PROBLEM: Structural Type II indicates the lack of younger age classes. There is a particular lack of cottonwood seedlings and saplings.

SOLUTION AND COST: Protective fencing and planting of cottonwood.

1½ miles of fence (acres)	-	\$5,000
Well and Pump	-	3,000
Planting and Watering	-	<u>8,000</u>
 TOTAL FIRST YEAR COST	-	\$16,000

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-TB-2

PRIORITY: 28

ALLOTMENT: Dagger

ACRES: 5

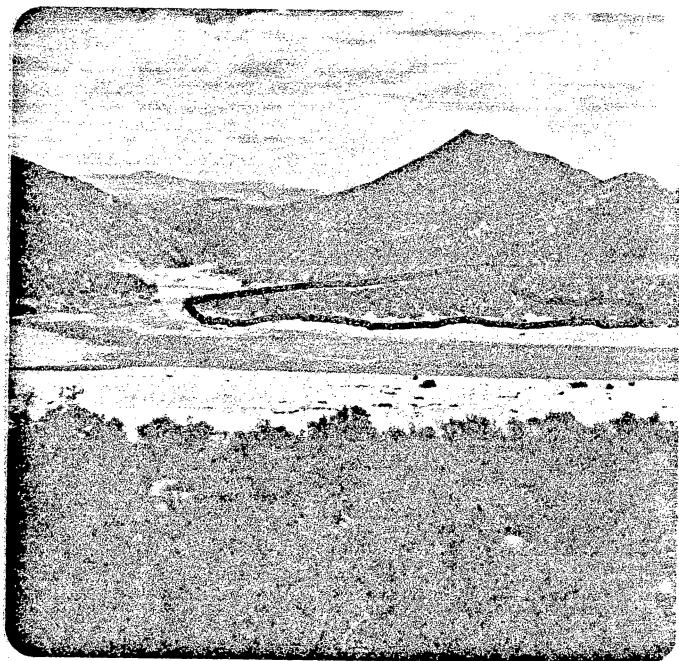
LOCATION: SE $\frac{1}{4}$, SW $\frac{1}{4}$, S.35, T.4N., R.15E.

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Honey Mesquite IV

PROBLEM: Lack of cottonwood regeneration with evidence of heavy grazing
in the riparian area of Horseshoe Bend.

SOLUTION AND COST: Protective fencing and planting of cottonwood.

$\frac{1}{2}$ mile of fence	-	\$2,000
Planting	-	2,000
Maintenance (fence only)	-	<u>200/yr.</u>
TOTAL FIRST YEAR COST	-	\$4,000



T-TB-2

This five acre alluvial bench is across from the main Horseshoe Bend area. Protective fencing and planting here will enhance this riparian area. At the present time there are no mature cottonwood trees.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-TB-3

PRIORITY: 29

ALLOTMENT: Dagger

ACRES: 20

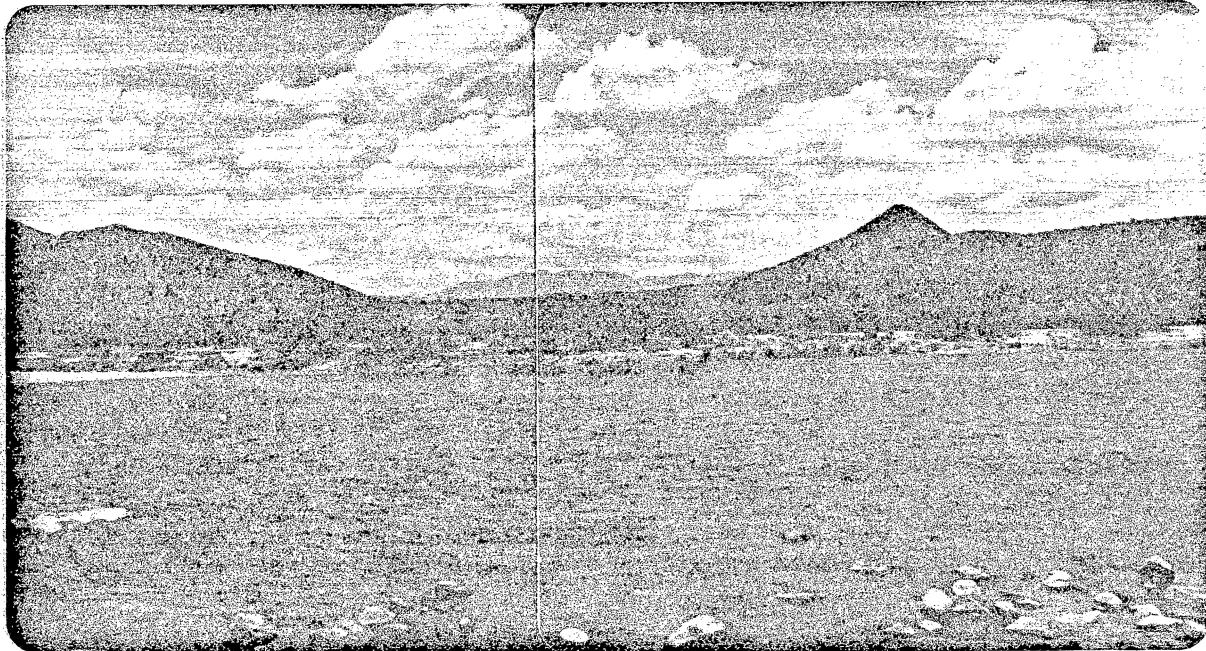
LOCATION: S $\frac{1}{2}$, SE $\frac{1}{4}$, S.35, T.4N., R.15E.

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Honey Mesquite IV.

PROBLEM: Lack of cottonwood trees in prime riparian area of Horseshoe Bend. Evidence of heavy grazing in the riparian area.

SOLUTION AND COST: Protective fencing and planting of cottonwood trees. Road access #219 to southside of river.

1 mile of fence	-	\$4,000
Planting	-	3,000
Maintenance (fence)	-	<u>200/yr.</u>
 TOTAL FIRST YEAR COST	-	\$7,000



T-TB-3

Protective fencing and planting of cottonwood trees will enhance this alluvial bench. This area, across from Horseshoe Bench, is within the foraging area of the Redmond flat nest territory.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-TB-4

PRIORITY: 30

ALLOTMENT: Dagger

ACRES: 3

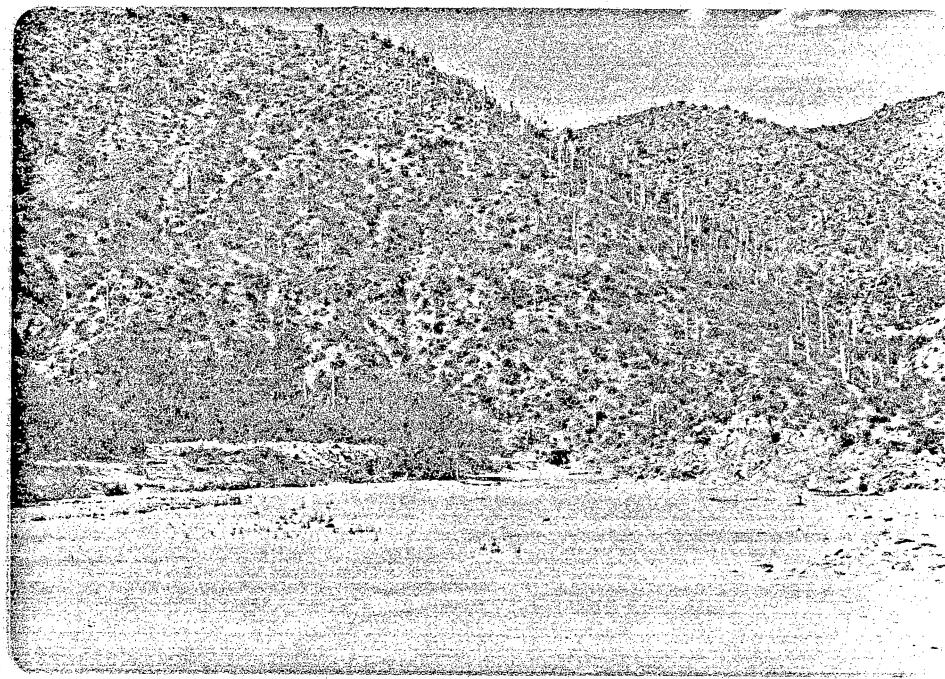
LOCATION: NE $\frac{1}{4}$, SW $\frac{1}{4}$, S.23, T.4N., R.15E.

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Cottonwood Willow III

PROBLEM: Lack of younger age classes of cottonwood. Evidence of heavy grazing in the riparian areas are eliminating cottonwood reproduction.

SOLUTION AND COST: Protective fencing and planting of cottonwood trees. Area is used by nesting Bald Eagles in the off nest season. Also, used by migrant wintering eagles.

$\frac{1}{2}$ mile of fence (remote)	-	\$2,500
Planting 50 trees	-	<u>2,000</u>
TOTAL FIRST YEAR COST		- \$4,500



T-TB-4

This area is used by nesting Bald Eagles in the off-nest season and by migrant wintering eagles. Protective fencing and planting will maintain this habitat.

TONTO NATIONAL FOREST

GRAZING CONFLICTS IN BALD EAGLE NESTING HABITAT

SHORT TERM ENHANCEMENT OPPORTUNITY

PROJECT NO.: T-G-4

PRIORITY: 31

ALLOTMENT: Hicks-Pikes Peak

ACRES: -

LOCATION: S.33, T.4N., R.15E. and S.2, T.3N., R.15E. Upper Salt River,
Horseshoe Bend.

VEGETATIVE COMMUNITY & STRUCTURE TYPE: Honey Mesquite IV

PROBLEM: Lack of cottonwood trees in good riparian areas of Horseshoe Bend. Heavy grazing in riparian is eliminating natural cottonwood regeneration. Unable to fence because of private land.

SOLUTION AND COST: Planting of browse proof cottonwood cutting along river margin in the Horseshoe Bend area. Access by Road No. 219 to river.

Planting 50 large (12 ft. long, 4" diam) cuttings	-	\$2,000
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T-G-4

Alluvial benches in the Horseshoe Bend area have natural cottonwood regeneration. However, protective fencing is impractical here. Therefore, the planting of large browse proof cuttings will establish perch and foraging trees here.

B. Long Range Program

The estimated cost of structural range facilities necessary to implement proper management and/or livestock exclusion on the Salt and Verde Rivers is about \$540,000. Due to the rough topography and inaccessibility of much of the area associated with these rivers, construction costs will be relatively high. Estimated costs have assumed construction will be by contract in all cases. However, if labor contributions can be negotiated with the permittees, costs may be somewhat lower.

Since this construction and development program must be closely integrated with the implementation of allotment management plans, the expenditure of funds would commence in FY 1981 on a comparatively modest scale and gradually increase until the program is finalized in FY 1987 (existing manpower level) or in FY 1985 (increased manpower level).

The statistical data which follow for each allotment show that most allotments will require some adjustment in livestock numbers or seasons as a prerequisite to the implementation of management. This need is amplified in some cases by the special treatment to be accorded the riparian type in river pastures.

Target dates shown for completion of range studies and management plan implementation assume that comprehensive studies (including soil surveys, hydrologic surveys, wildlife habitat surveys, etc.) will need to be completed in the face of probable disagreements concerning livestock numbers adjustments and management implementation. Therefore, these are "worst case" estimates. In the event accord can be negotiated in some cases, the program's pace can quicken commensurate with the limits of available manpower.

A word needs to be added here concerning the impact of this program on available manpower and the need for sustained capability to handle the program. Allotments under extensive management regimes require much less attention than do the same allotments when placed under intensive management. Where supervision fails, the latter management systems often revert to extensive type management and the investments in range facilities, revegetation, etc. are largely wasted.

In developing the target date shown below for study completion, planners were guided by the premise that on-going studies on non-riverine allotments will not be abandoned. Rather, they will be carried to completion to avoid the loss of data collected to date. However, riverine allotments were moved forward in Forest priorities in order to commence studies sooner than otherwise would have been the case.

The target year shown for study completion for each allotment under the increased manpower option presumes the addition of one journeyman level range conservationist to each of four Ranger Districts on the Tonto, commencing in FY 1980. This person's efforts would be focused primarily on the riverine allotments on the Ranger District to which assigned as follows: to conduct the necessary range studies; develop allotment management plans; plan and supervise range improvement programs and prepare the large number of Environmental Assessments associated with these. That individual would also assist in monitoring the management plans once implemented. The associated costs are estimated at \$100,000 per year.

Increased capability in other disciplines needed to support the range study effort will be necessary regardless of the timetable chosen for the conduct of range studies and management planning. Especially critical on the Tonto has been the lack of sound soil survey information and the competition for the soil scientist's time due to other priority programs such as Land Management Planning. Following is a listing of support personnel needs and the probable duration of those needs:

<u>Number</u>	<u>Discipline</u>	<u>Duration</u>	<u>Commence</u>	<u>Cost</u>
2	Soil Scientist	2 Years	1980	\$50,000
1	Wildlife Biologist	2 Years	1981	\$25,000
1	Hydrologist	2 Years	1981	\$25,000

There is a possibility that range improvement programs might exceed the capability of the Tonto's Archeology and Visual Resource Management Staff but if the program is spread over 5 to 6 years, this might not be a problem.

See maps at end of Tonto section for the relationship of grazing allotments to the Salt and Verde Rivers.

1. Allotment Name: Bartlett
 Permitted Numbers: 376 Cattle Yearlong
188 Yearlings 1/1-5/31
 Permitted AUM's: 5208
 Estimated Grazing Capacity
 from - Range Analysis: No Allotment Analysis Completed
 Current Estimated Grazing
 Capacity Under a Sound
 Management System (From
 On-going Studies or Best
 Professional Estimate): 1150 (AUM's)
 Adjustment in AUM's
 Necessary to Implement
 Management System: 4059
 Estimated Costs of
 Range Facilities Needed
 to Implement Management
 System: \$65,500
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Existing Manpower: FY 1984
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Increased Manpower: FY 1982

The Bartlett Allotment, containing approximately 38,000 acres of National Forest land, lies primarily within the desert shrub vegetation type. Perennial grasses are scarce to absent over much of the area, hence it is believed that the allotment is not well suited to yearlong grazing by an inflexible number of cattle. The best use of the area would be (provided the investment in range facilities necessary to protect riparian values is justified) seasonal use by yearlings, with the number authorized each year in balance with the production of browse by shrub species, plus the anticipated crop of forage to be contributed by annual plant species. This latter forage base varies from a negligible amount to one of great abundance, depending on winter precipitation.

On the assumption that yearlong cow/calf use will continue, 20 acres of land presumed to be grazable (no range inventory data are available) per AUM were used to compute the current estimated grazing capacity. The

1150 AUM's thus computed indicate a grazing capacity is available for about 95 cattle yearlong. The same forage base made available to light weight yearlings for a five month season would accommodate approximately 455 yearlings during years of average forage production and perhaps up to twice this number in good years, such as 1979, when winter moisture encouraged the production of a bumper crop of ephemeral forage by annual grass and forb species.

Regardless of the class of livestock eventually decided on for this allotment, it is believed that the Verde River, which bisects the allotment in its entirety, will need to be fenced in a separate pasture in order to effectively regenerate and maintain the important riparian plant communities. To do so will require the construction of approximately 13 miles of fence @ \$3,500 and the construction of alternative livestock water sources at an estimated cost of \$20,000.

The nest site for the Bartlett pair of eagles is located in the northern portion of this allotment and the river contributes almost all of the food base for this pair. The south end of the allotment serves as a foraging area for the Fort McDowell nest territory. These eagles nest along the Verde River within the boundaries of the Fort McDowell Indian Reservation.

Previous allotment inspection reports indicate that considerable impact to fences by recreationists was anticipated if a fence along the east side of the river (proposed by a former permittee several years ago) was built.

2. Allotment Name: Sears Club
 Permitted Numbers: 746 Cattle Yearlong
398 Yearlings 1/1-5/31
 Permitted AUM's: 10,345
 Estimated Grazing Capacity
 from - Range Analysis: 6,000 AUM's
 Current Estimated Grazing
 Capacity Under a Sound
 Management System (From
 On-going Studies or Best
 Professional Estimate): 5,000 AUM's
 Adjustment in AUM's
 Necessary to Implement
 Management System: 5,345
 Estimated Costs of
 Range Facilities Needed
 to Implement Management
 System: \$80,000
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Existing Manpower: FY 1985
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Increased Manpower: FY 1983

Nearly one half of this 65,000 acre allotment lies within the desert shrub vegetation type where little perennial herbaceous forage is produced. The preceding discussion for the Bartlett Allotment relative to "best use" for the desert shrub range type applies here as well. In fact, it is probable that this principle applies generally to the desert shrub type, found at lower elevations on the Tonto.

An estimated 85% of the Sears Club Allotment lies within the Mazatzal Wilderness and the contiguous RARE II area, presently recommended for further study.

Existing gap fences and topographic features roughly divide the allotment into three pastures or units but some fence extensions would be necessary to make these pastures "tight" enough to implement a sound grazing system. However, they may be adequate if use of the allotment was by yearlings in the winter months, since some drift between pastures could be tolerated during the season when most forage plants are dormant.

The existing boundary between the Sears Club Allotment and the St. Claire Sheep Allotment is located on the west side of the Verde River and thus places some 15 miles of the river inside the former allotment. To provide an opportunity to rejuvenate and protect the riparian type, the fence needs to be moved to the east side of the river, placing the river inside the St. Claire Sheep Allotment. With winter season sheep grazing, under herded management, it is believed that the riparian type can be adequately protected.

To accomplish this, approximately 10 miles of new fence would be required on the new alignment at an estimated cost of \$5,000 per mile. To replace the water source thus removed from the west end of the allotment, an estimated 12 springs would need to be developed @ \$750 (most of these are within the Wilderness or the Wilderness study area).

Assuming that yearlong use by cattle will continue and that our goal is to initiate a rest rotation grazing system on the allotment, an additional three miles of fence @ \$7,000 will be necessary to make pastures reasonably tight. All of this needed fence would be within the Wilderness.

The stretch of the Verde River within this allotment serves as a foraging area for the Bartlett nest territory.

3. Allotment Name: St. Claire

Permitted Numbers: 3000 Sheep 2/1-4/10
4000 Sheep 3/15-4/25
18 Burros 10/10-4/20
2 Horses 2/1-4/20
14 Horses and Burros 3/15-4/25

Permitted Sheep Months: 12,221

Permitted AUM's: (Horses and Burros) 136

Estimated Grazing Capacity from 1975 Range Analysis: 12,500 Sheep Months

Current Estimated Grazing Capacity Under a Sound Management System (From On-going Studies or Best Professional Estimate): 12,500

Adjustment in AUM's Necessary to Implement Management System: None Required

Estimated Costs of Range Facilities Needed to Implement Management System: None Needed

Target Year for Range Study Completion and Management Plan Implementation with Existing Manpower: Completed in 1975

Target Year for Range Study Completion and Management Plan Implementation with Increased Manpower: N/A

Under the present use by sheep under herded management, no conflicts with riparian habitat have been identified, since the east boundary of the allotment stops short of the Verde River. (See the preceding discussion for the Sears Club Allotment concerning the need for a boundary change between these two allotments.)

4. Allotment Name: Chalk Mountain

Permitted Numbers: 6,207 Sheep 2/1-4/15
32 Horses and Burros 10/15-4/15

Permitted Sheep Months: 15,518

Permitted AUM's: (Horses and Burros) 192

Estimated Grazing Capacity from - Range Analysis: Incomplete at this time

Current Estimated Grazing Capacity Under a Sound Management System (From On-going Studies or Best Professional Estimate): 16,000 Sheep Months*

*Provided both disjunct portions of allotment could be grazed.

Adjustment in AUM's Necessary to Implement Management System: None required

Estimated Costs of Range Facilities Needed to Implement Management System: None needed for sheep use

Target Year for Range Study Completion and Management Plan Implementation with Existing Manpower: FY 1979

Target Year for Range Study Completion and Management Plan Implementation with Increased Manpower: FY 1979

The Chalk Mountain Sheep Allotment lies east of the Verde River in two disjunct segments being separated by the LX Bar-Red Hills Cattle Allotment. The northern most segment has not been grazed by sheep for more than 20 years due to its remoteness and logistical problems in reaching it. However, considerable grazing pressure has occurred thereon in the form of cattle drift from the LX Bar-Red Hills, Cedar Bench and Bull Springs Allotments.

Hherded sheep on the southern most segment should be adequate to protect the riparian type and the program discussed later for the above allotments should alleviate impacts on the northern segment as well.

The Chalk Mountain permittee has filed an application proposing to convert from sheep to cattle. That application was disapproved, pending completion of the on-going Allotment Analysis and an EAR which will examine identified alternatives for the future use of the area. Should a decision follow that permits conversion from sheep to cattle, then it would be necessary to plan facilities necessary to adequately protect the riparian type on the Verde River.

The Chalk Mountain eagle nest territory is located on this allotment at the upper end of Horseshoe Reservoir and the river upstream from the reservoir in an important foraging area.

5. Allotment Name: LX Bar - Red Hills

Permitted Numbers: 332 Cattle Yearlong
248 Yearlings 1/1- 5/31

Permitted AUM's: 4852

Estimated Grazing Capacity from 1962 Range Analysis: 4212 AUM's

Current Estimated Grazing Capacity Under a Sound Management System (From On-going Studies or Best Professional Estimate): 3650

Adjustment in AUM's Necessary to Implement Management System: 1202

Estimated Costs of Range Facilities Needed to Implement Management System: \$29,500

Target Year for Range Study Completion and Management Plan Implementation with Existing Manpower: FY 1981

Target Year for Range Study Completion and Management Plan Implementation with Increased Manpower: FY 1981

6. Allotment Name: Skeleton Ridge
 Permitted Numbers: 533 Cattle Yearlong
317 Yearlings 1/1-5/31
 Permitted AUM's: 7506
 Estimated Grazing Capacity
 from 1967 Range Analysis: 6430 AUM's
 Current Estimated Grazing
 Capacity Under a Sound
 Management System (From
 On-going Studies or Best
 Professional Estimate): 5000 AUM's
 Adjustment in AUM's
 Necessary to Implement
 Management System: 2506
 Estimated Costs of
 Range Facilities Needed
 to Implement Management
 System: \$31,000
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Existing Manpower: FY 1981
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Increased Manpower: FY 1981

The LX Bar-Red Hills Allotment and the Skeleton Ridge Allotment, the statistics for which precede this discussion, are grazed by a single permittee. A portion of the Skeleton Ridge Allotment is grazed under a management system in conjunction with the LX Bar, thus both allotments must be considered simultaneously in seeking solutions to problems.

Both allotments are currently under study, with completion projected for fiscal year 1981.

For the LX Bar-Red Hills, it is perceived that two river pastures, largely delineated by natural barriers but requiring some gap fencing inside the Wilderness study area, can be created with approximately four miles of fence, cost in this inaccessible area estimated at \$7,000 per mile. To help compensate for loss of the river water for livestock in a part of the allotment, two spring developments, @ \$750 will be needed.

To create a river pasture encompassing that segment of the Verde River adjacent to the Skeleton Ridge Allotment, four miles of fence @ \$7,000 and one cattleguard @ \$3,000 will be required.

The river pastures thus created will need to be accorded a management prescription via the management plan to achieve riparian rejuvenation.

This stretch of the river is an important foraging area for the Chalk Mountain nest territory.

7. Allotment Name: Cedar Bench
 Permitted Numbers: 70 Cattle Yearlong
180 Cattle 11/1-5/31
110 Yearlings 1/1-5/31
 Permitted AUM's: 2485
 Estimated Grazing Capacity
 from 1966 Range Analysis: 1560 AUM's
 Current Estimated Grazing
 Capacity Under a Sound
 Management System (From
 On-going Studies or Best
 Professional Estimate): 840 AUM's
 Adjustment in AUM's
 Necessary to Implement
 Management System: 1645
 Estimated Costs of
 Range Facilities Needed
 to Implement Management
 System: \$26,000
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Existing Manpower: FY 1985
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Increased Manpower: FY 1983

An estimated 70 percent of the grazing capacity on the Cedar Bench Allotment falls within the riparian type and areas immediately adjacent on both sides of the Verde River. Thus, fencing the river into a logical pasture in an effort to rejuvenate riparian will have a great impact on this allotment. In fact, when enough rest is built into a management system to meet this objective, it is unlikely that enough grazing capacity remains on the allotment to warrant the expense of the necessary range facilities or to interest a prudent livestock operator in running livestock in this extremely remote area. The remainder of the allotment, as well as the range in the possible river unit, is in an extremely deteriorated condition. Additionally, all of the remaining grazing capacity outside the proposed river pasture is in the Mazatzal Wilderness or the contiguous Wilderness study area. The confluence of the East Verde and Verde River serves as an important foraging area for the East Verde nest territory.

This area is watered almost entirely by earthen tanks, most of which are breached or badly in need of repair. Refurbishment of these would be necessary to graze the remainder of the allotment after access to the river is restricted. The presence of some of these tanks inside the Wilderness greatly complicates the maintenance process. Even if those complications could be overcome, the supply of dependable water would be precarious.

It is believed that a more logical approach would be to combine the small amount of grazable range on the Cedar Bench Allotment with the Hardscrabble Allotment to the east and discontinue the practice of placing livestock into the rough breaks of the Verde River.

An estimated two miles of fence, @ \$7,000 would be needed to isolate the river if grazing is continued on the allotment and the estimated cost of development of alternative water sources is \$12,000.

8. Allotment Name: Goldfield
 Permitted Numbers: 186 Cattle Yearlong
97 Yearlings 1/1-5/31
 Permitted AUM's: 2572
 Estimated Grazing Capacity
 from 1964 Range Analysis: No estimates made at that time
 Current Estimated Grazing
 Capacity Under a Sound
 Management System (From
 On-going Studies or Best
 Professional Estimate): *150
 Adjustment in AUM's
 Necessary to Implement
 Management System: 2422
 Estimated Costs of
 Range Facilities Needed
 to Implement Management
 System: *\$42,500
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Existing Manpower: FY 1982
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Increased Manpower: FY 1981

*The E.I.S. for the Lower Salt River Recreation Plan recognizes that an unacceptable level of conflict exists between yearlong livestock use and recreation values, as well as with soil, watershed and wildlife habitat (primarily riparian values). It further recognizes the eventual need to gain control of livestock use on the river.

An estimated nine miles of fence and three cattleguards would be needed on the south side of the Salt River to exclude livestock. According to our preliminary computations, there is a perennial forage base (primarily browse) and enough livestock water in one area of the allotment to graze approximately 150 AUM's on a sustained basis. Obviously the investment in range facilities for this meager forage resource would not prove cost effective. Considering the anticipated impact of recreationists on fences constructed in their midst, most knowledgeable people also have doubts as to the practicability of such a fencing effort.

The permittee on the Goldfield Allotment has offered to sell the commensurate property for the allotment to the Federal government. Provided this purchase is consummated and the term grazing permit is retired, there will be no need for the fencing and range study action shown above. If it is not, other alternatives will need to be considered.

One alternative is to simply cancel the permit in recognition that the expenditure of funds is neither practical or of economic feasibility.

Another possibility would be to terminate the term grazing permit and provide for the consideration of annual temporary permits for yearlings, both the issuance of and numbers of yearlings authorized being contingent on the prospects for the production of a crop of spring annual forage. It is unknown whether such a program without the construction of fences to control the presence of yearlings on the river would meet resource management objectives for the area. If it did not, the discontinuance of temporary permits would be necessary as well.

9. Allotment Name: Poison Springs
 Permitted Numbers: 340 Cattle Yearlong
265 Yearlings 1/1-5/31
 Permitted AUM's: 5008
 Estimated Grazing Capacity
 from 1963 Range Analysis: 3500 AUM's
 Current Estimated Grazing
 Capacity Under a Sound
 Management System (From
 On-going Studies or Best
 Professional Estimate): 2600 AUM's
 Adjustment in AUM's
 Necessary to Implement
 Management System: 2408
 Estimated Costs of
 Range Facilities Needed
 to Implement Management
 System: \$49,500
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Existing Manpower: FY 1987
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Increased Manpower FY 1984

The Poison Spring Allotment is the first allotment encountered by the free-flowing Salt River above Roosevelt Lake. About half of the river within the allotment boundary is below the high water line of the lake.

A river pasture can be created by fencing the right of way on the east side of the Young Highway (State Highway 288) and by constructing another fence on the south side of the Salt River about two miles in length. A total of six miles of fence @ \$3500 would be required. Provision for alternative water sources would entail the installation of four miles of pipeline from existing wells north of the Young Highway and two miles of pipeline from a spring source south of the river. Cost of water development is estimated at \$14,000.

In addition, as much as two miles of gap fence @ \$7,000 could be required to keep livestock from getting into the riparian type in the vicinity of Redmond Flat, the location of an eagle nest territory. On-the-ground examination might prove this much fencing to be unnecessary.

10. Allotment Name: Dagger
 Permitted Numbers: 428 Cattle Yearlong
300 Yearlings 1/1-5/31
 Permitted AUM's: 6186
 Estimated Grazing Capacity
 from 1968 Range Analysis: 4,250 AUM's
 Current Estimated Grazing
 Capacity Under a Sound
 Management System (From
 On-going Studies or Best
 Professional Estimate): 3,000 AUM's
 Adjustment in AUM's
 Necessary to Implement
 Management System: 3,186
 Estimated Costs of
 Range Facilities Needed
 to Implement Management
 System: \$30,500
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Existing Manpower: FY 1987
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Increased Manpower: FY 1984

The Dagger Allotment lies immediately east of the Poison Spring Allotment and is bounded on the south by the Salt River. On the north side of the river it shares a common boundary with the Poison Spring Allotment in the vicinity of the Redmond Flat eagle nest territory.

Considering the rough topography and limited access routes cattle have to the river, plus the fact that cattle on the Hicks-Pikes Peak Allotment located to the south make much greater use of the river as a water source, it is believed best to block cattle access to the river and plan alternative water sources. An estimated three miles of fence @ \$7,000 would be required to accomplish the objective. Three horizontal wells and three miles of pipeline at an estimated cost of \$9,000 would furnish the replacement water.

11. Allotment Name:	<u>Hicks-Pikes Peak</u>
Permitted Numbers:	<u>1000 Cattle Yearlong</u> <u>537 Yearlings 1/1-5/31</u>
Permitted AUM's:	<u>13,880</u>
Estimated Grazing Capacity from <u>1968 Range Analysis</u> :	<u>12,500</u>
Current Estimated Grazing Capacity Under a Sound Management System (From On-going Studies or Best Professional Estimate):	<u>6,000 AUM's</u>
Adjustment in AUM's Necessary to Implement Management System:	<u>7,880 AUM's</u>
Estimated Costs of Range Facilities Needed to Implement Management System:	<u>\$75,000</u>
Target Year for Range Study Completion and Management Plan Implementation with Existing Manpower:	<u>FY 1986</u>
Target Year for Range Study Completion and Management Plan Implementation with Increased Manpower:	<u>FY 1985</u>

The 63,000 acre Hicks-Pikes Peak Allotment is the only allotment on the upper Salt River besides the Poison Spring Allotment that lies on both sides of the river. It extends as much as 1½ miles north of the Salt River in the northwest corner of the allotment. Easy access to the riparian type is common in many locations along the river; therefore, it is deemed most logical to create a river unit that can be given special consideration in management planning efforts.

Approximately 18 miles of the Salt River can be isolated into a river pasture by the construction of an estimated 9 miles of gap fences @ \$7,000. An estimated cost of \$12,000 must be incurred to provide replacement water on grazable range isolated by the fences.

The Redmond Flat eagle nest territory is located within this allotment.

12. Allotment Name: Sedow
 Permitted Numbers: 800 Cattle Yearlong
247 Yearlings 1/1-5/31
 Permitted AUM's: 10,464
 Estimated Grazing Capacity
 from 1979 Range Analysis: 5,800
 Current Estimated Grazing
 Capacity Under a Sound
 Management System (From
 On-going Studies or Best
 Professional Estimate): 5800
 Adjustment in AUM's
 Necessary to Implement
 Management System: Voluntary adjustment in progress
 Estimated Costs of
 Range Facilities Needed
 to Implement Management
 System: Financed and in progress
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Existing Manpower: FY 1979
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Increased Manpower: None required

The Sedow Allotment lies south of and borders on the Salt River for a distance of approximately eight miles. The river is a common boundary for the Dagger Allotment for about one half this distance and the Fort Apache Indian Reservation for the other half.

A voluntary adjustment in livestock numbers and the initiation of a management plan are in the process of implementation.

A river pasture (4Y Unit) presently exists and will be subjected to the Santa Rita Rest Rotation Management System, which will provide for four months of use followed by one full year of rest between use periods. The four month period of use will fall at a different season of the year each time the unit is scheduled for use. Heretofore, this unit has been stocked heavily and grazed yearlong. It should provide an excellent

reference area for the evaluation of this system's effectiveness in the rejuvenation and protection of riparian habitat on the Salt River. The system has been in effect on some pastures of the Sedow Allotment for at least two years and locally it is felt that the riparian type in drainages tributary to the Salt already shows positive effects.

Needed range facilities are planned and financed in conjunction with the new management plan.

13. Allotment Name: Haystack Butte

Permitted Numbers: 280 Cattle Yearlong
36 Yearlings 1/1-5/31

Permitted AUM's: 3,486

Estimated Grazing Capacity from 1966 Range Analysis: 3,480 AUM's

Current Estimated Grazing Capacity Under a Sound Management System From On-going Studies or Best Professional Estimate): 1500 AUM's

Adjustment in AUM's Necessary to Implement Management System: 1986 AUM's

Estimated Costs of Range Facilities Needed to Implement Management System: \$24,500

Target Year for Range Study Completion and Management Plan Implementation with Existing Manpower: FY 1984

Target Year for Range Study Completion and Management Plan Implementation with Increased Manpower: FY 1983

The Salt River serves as a common boundary between the Haystack Butte Allotment and the Fort Apache Indian Reservation for a distance of about four miles.

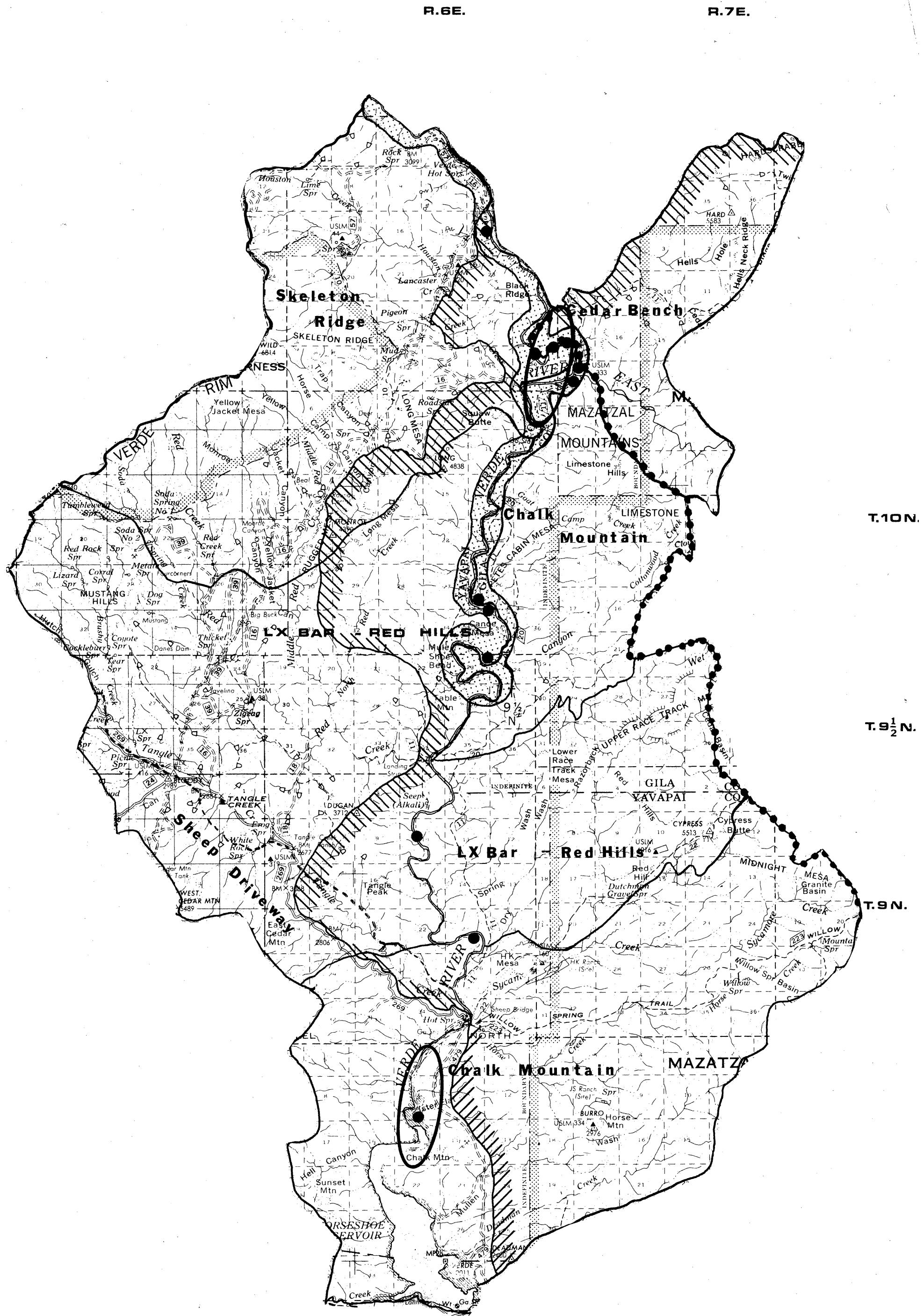
Three miles of fence @ \$7,000 will be required to fence the riparian type into a river pasture. Three spring developments @ \$1,000 and one mile of pipeline @ \$500 will be necessary to replace the river as a water source.

14. Allotment Name: Chrysotile
 Permitted Numbers: 621 Cattle Yearlong
319 Yearlings 1/1-5/31
 Permitted AUM's: 8,568
 Estimated Grazing Capacity
 from 1964 Range Analysis: 6,260
 Current Estimated Grazing
 Capacity Under a Sound
 Management System (From
 On-going Studies or Best
 Professional Estimate): 4,500 AUM's
 Adjustment in AUM's
 Necessary to Implement
 Management System: 4068
 Estimated Costs of
 Range Facilities Needed
 to Implement Management
 System: \$87,000
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Existing Manpower: FY 1984
 Target Year for Range Study
 Completion and Management
 Plan Implementation with
 Increased Manpower: FY 1983

The Salt River serves as the boundary between the Chrysotile Allotment and the Fort Apache Indian Reservation for a distance of approximately 15 miles.

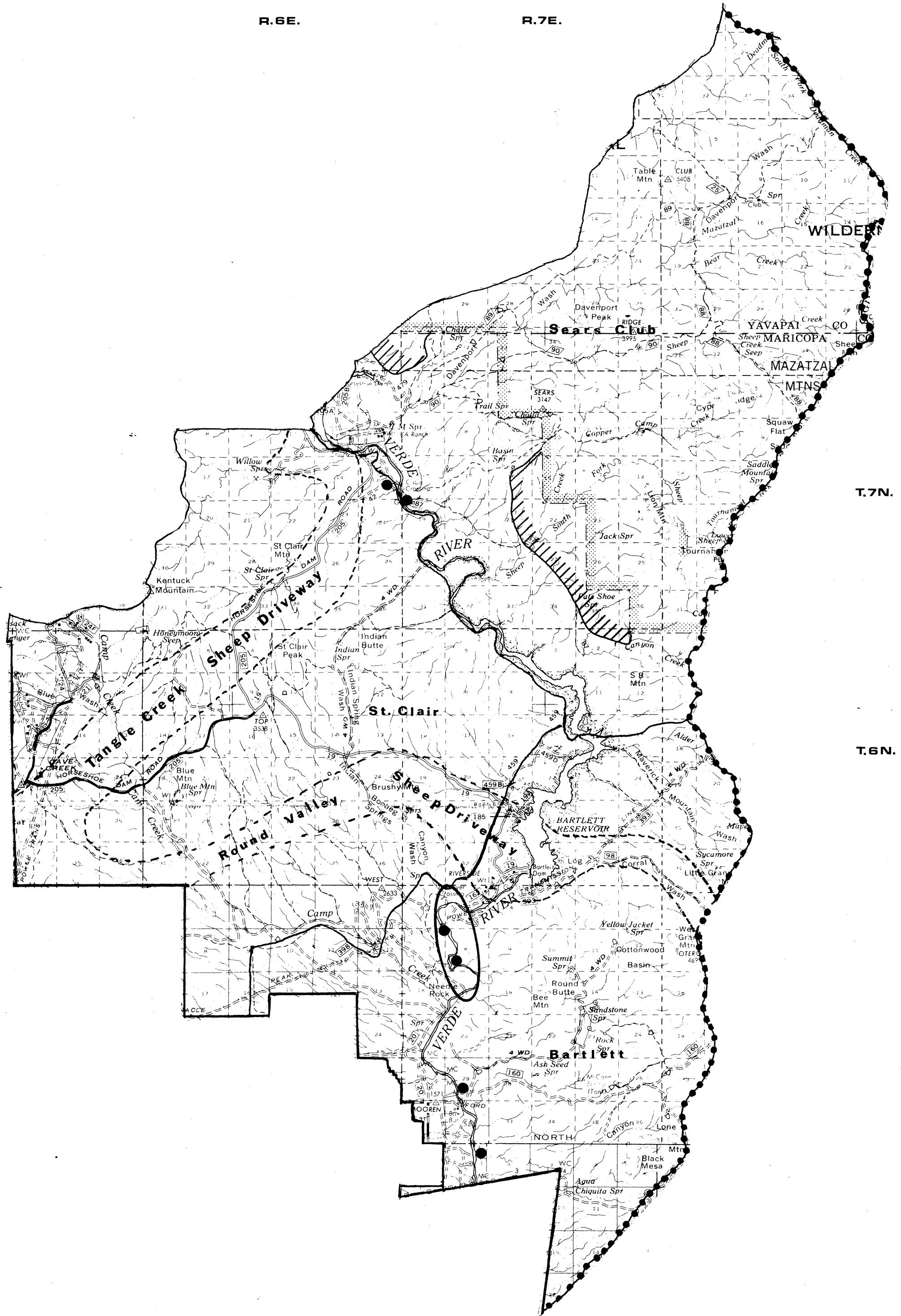
With the construction of eight miles of fence @ \$6,000, it is possible to create two river pastures. Needed water developments to compensate for restricted access to the river are 10 spring developments @ \$1,000, three stock tanks @ \$3,000 and the development of an existing well and installation of pipelines, estimated cost \$20,000.

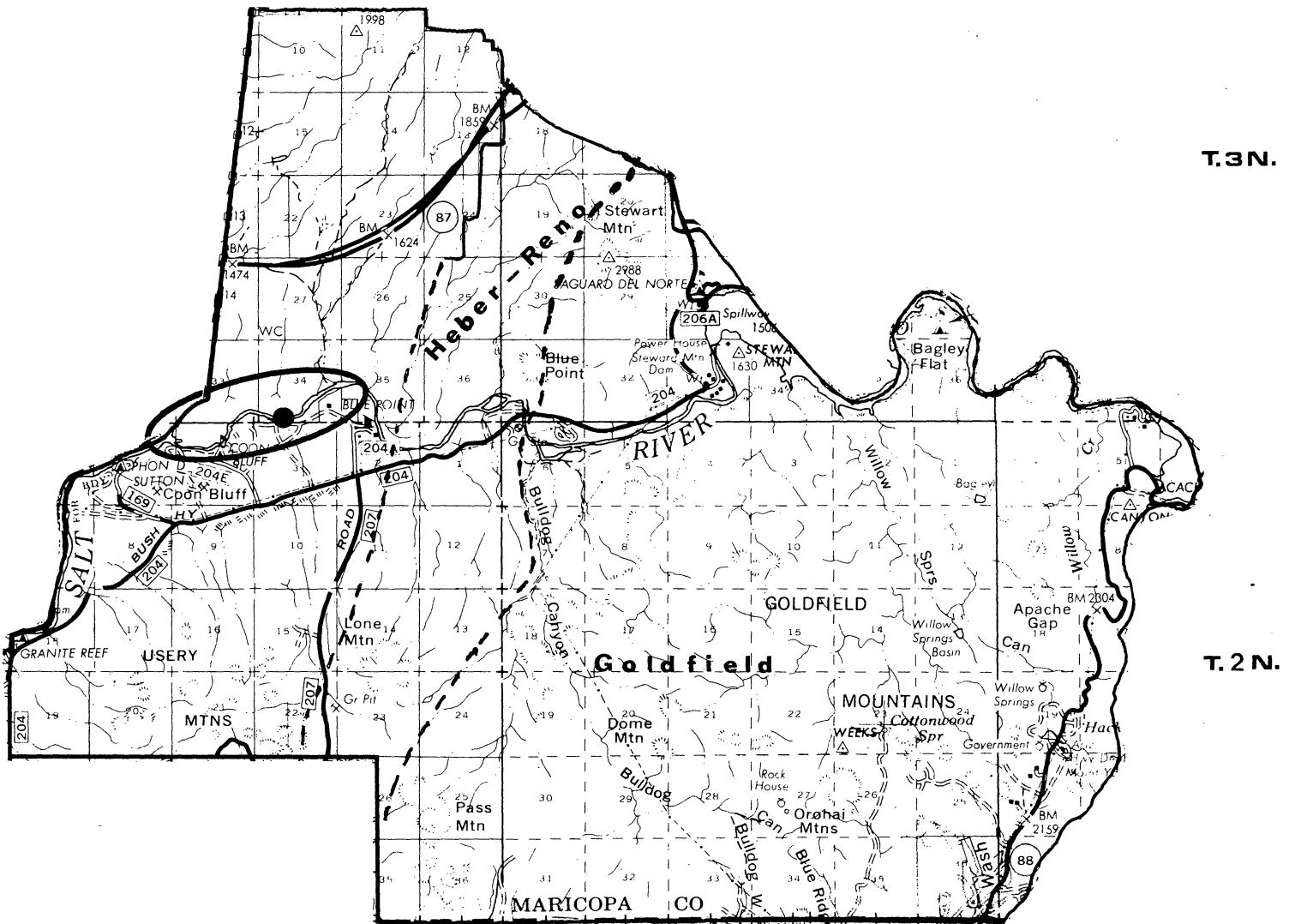
The Cibicue nest territory is located partly on this allotment. To date, all known ayerie sites have been on the north, or reservation side of the river. However, perch trees and foraging areas are shared by both sides of the river.



B.6E.

B.ZE





R.Z.E.

R.8E.

T. 5 N.

T. 4 $\frac{1}{2}$ N.

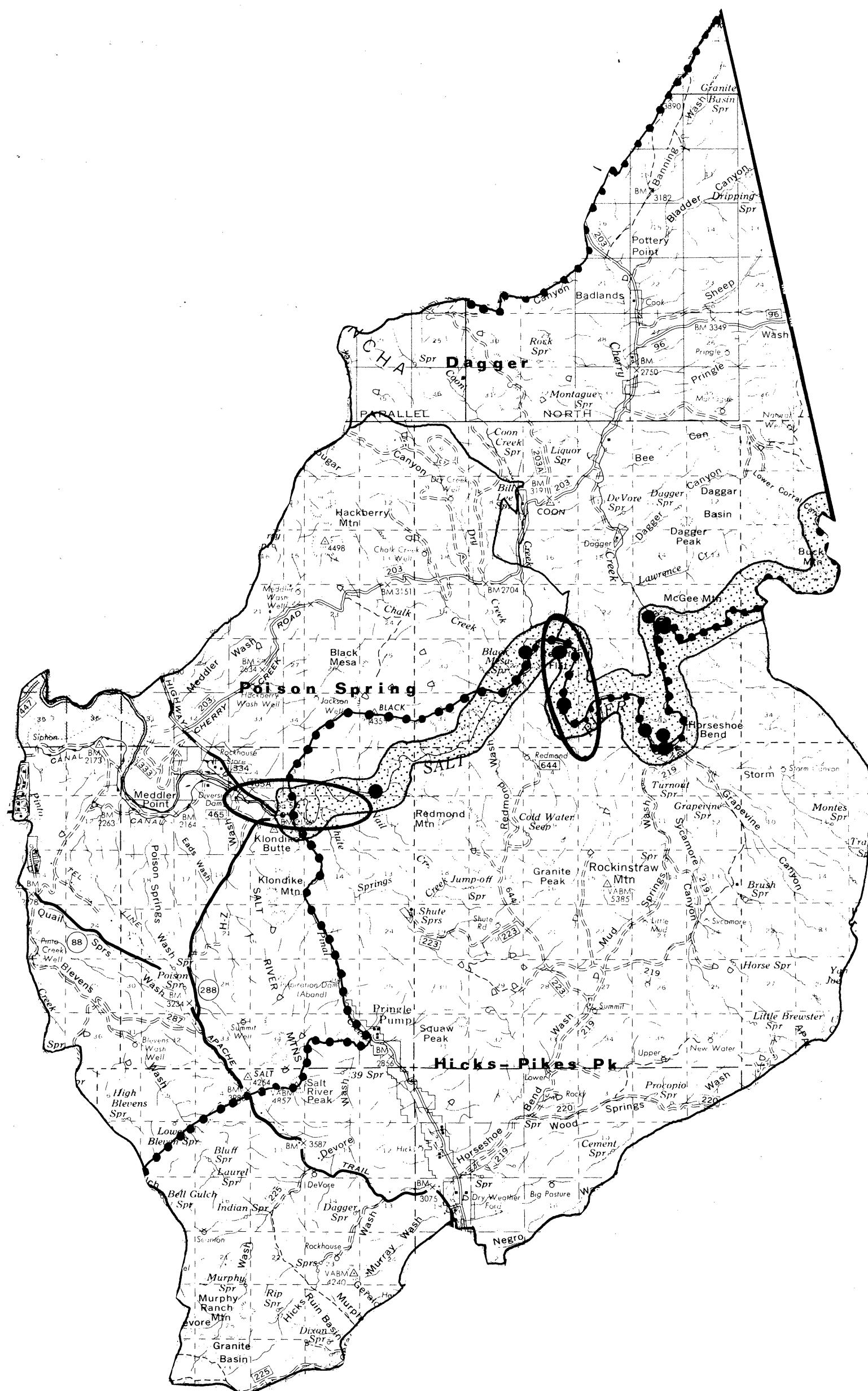
T. 4 N.

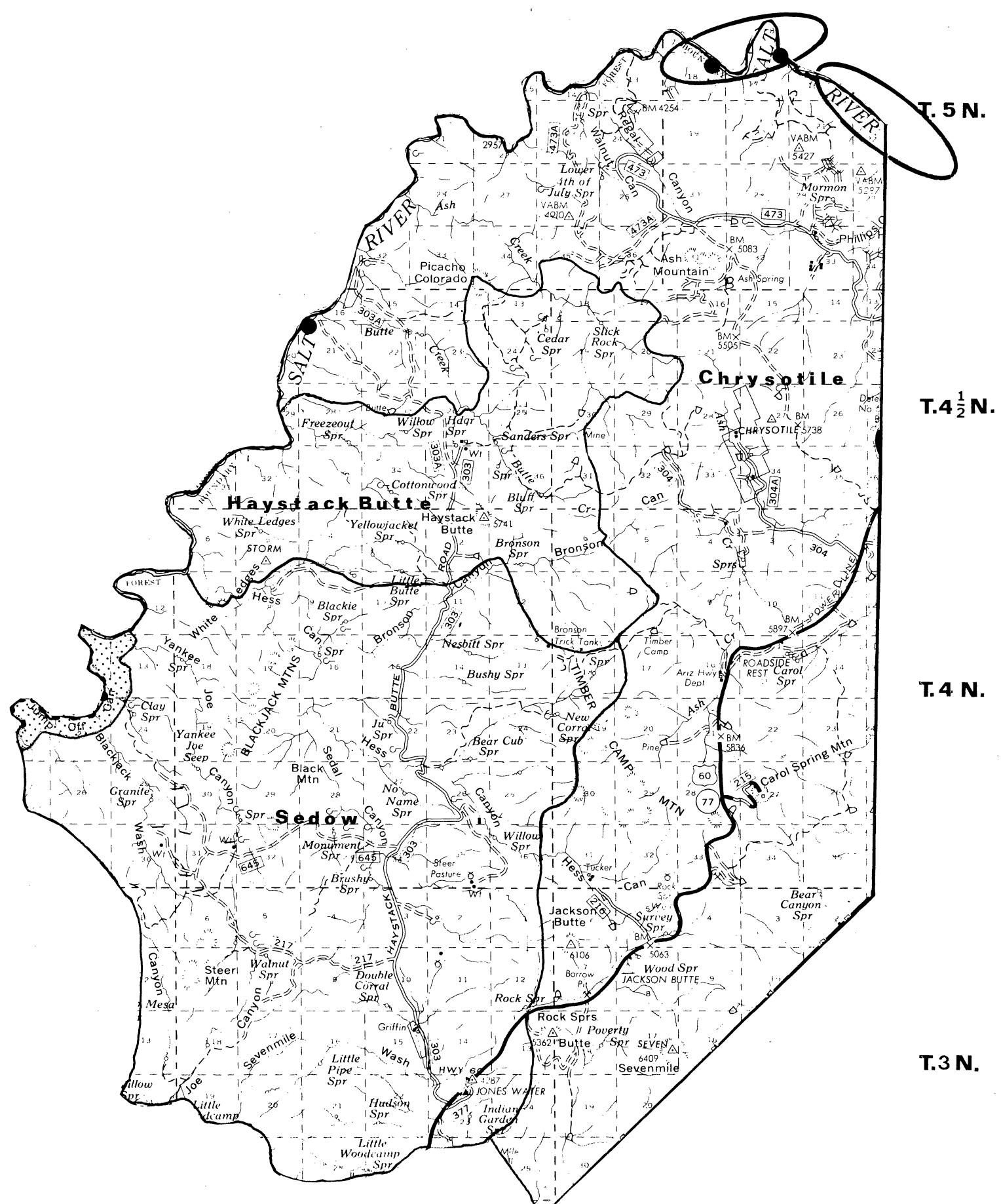
T. 3 N.

T. 2 N.

R. 14 E.

R. 15 E.





V - PROPOSED SHORT RANGE PROJECT SUMMARY
COCONINO NATIONAL FOREST

ALLOTMENT NAME	FENCING	WATER DEVELOPMENTS	COTTONWOOD PLANTING	MISC.	TOTAL
Wingfield Mesa					-0-
Cottonwood Basin	4,000		540	260 (Road Closing)	4,800
Hackberry	4,000	8,000			12,000
Fossil Creek	9,000	10,000			19,000
Ike's Backbone					-0-
Coconino Subtotal	17,000	18,000	540	260	35,800

PRESCOTT NATIONAL FOREST

121	Muldoon				-0-
	Del Rio	1,000	20,000		21,000
	China Dam	1,000			1,000
	Sand Flat				-0-
	Perkinsville	1,500			1,500
	Horseshoe				-0-
	Antelope Hills	4,000	16,000	8,000	28,000
	Squaw Peak	5,000		15,225 (Juniper Push&Seed)	35,225
	Brown Springs	20,000	30,0-0	12,506 10,000	72,506
	Prescott Subtotal	32,500	66,000	35,731 25,000	159,231

V - PROPOSED SHORT RANGE PROJECT SUMMARY (cont'd)

TONTO NATIONAL FOREST

ALLOTMENT NAME	FENCING	WATER DEVELOPMENTS	COTTONWOOD PLANTING	MISC	TOTAL
Bartlett	22,500	2,000	23,500		48,000
Sears Club	10,000	5,000	13,000		28,000
St Claire					-0-
Chalk Mountain	5,000	5,000	13,000		23,000
LxBar-Red Hills	29,000		26,000		55,000
Skeleton Ridge	5,000		2,000		7,000
Cedar Bench	25,000		30,000		55,000
Goldfield			8,000		8,000
Poison Springs	8,000		5,000		13,000
Dagger	8,500		7,000		15,500
Hicks-Pikes Peak	15,500		14,000		29,500
Sedow					-0-
Haystack Butte					-0-
Chrysotile	4,000		5,000		9,000
Tonto Subtotal	132,500	12,000	146,500	-0-	291,000
TOTAL	182,000	96,000	182,771	25,260	486,031

VI - PROPOSED LONG RANGE PROJECT SUMMARY
PRESCOTT NATIONAL FOREST

ALLOTMENT NAME	FENCING	WATER DEVELOPMENT	COTTONWOOD PLANTING	MISC.	TOTAL
Muldoon					-0-
Del Rio	13,000	26,000	5,000 (Juniper Push&Seed)		44,000
China Dam					-0-
Sand Flat	8,500	40,000			48,500
Perkinsville	7,000				7,000
Horseshoe					-0-
Antelope Hills	2,000	60,000	45,000 (Juniper Push&Seed)		107,000
Squaw Peak	34,000				34,000
Brown Springs					-0-
Prescott Subtotal	64,500	126,000	50,000		240,500

TONTO NATIONAL FOREST

Bartlett	45,000	20,000	65,500
Sears Club	71,000	9,000	80,000
St. Claire			-0-
Chalk Mountain			-0-

VI - PROPOSED LONG RANGE PROJECT SUMMARY (cont'd)
 TONTO NATIONAL FOREST (cont'd)

ALLOTMENT NAME	FENCING	WATER DEVELOPMENT	COTTONWOOD PLANTING	MISC.	TOTAL
LxBar-Red Hills	28,000	1,500			29,500
Skeleton Ridge	28,000		3,000 (Cattleguards)		31,000
Cedar Bench	14,000	12,000			26,000
Goldfield	33,500		9,000 (Cattleguards)		42,500
Poison Springs	35,000	14,000			49,000
Dagger	21,000	9,000			30,000
Hicks-Pikes Peak	63,000	12,000			75,000
Sedow					-0-
Haystack Butte	21,000	3,500			24,500
Chrysotile	48,000	39,000			87,000
Tonto Subtotal	408,000	120,000	12,000		540,000
TOTAL	472,500	246,000	-0-	62,000	780,500

Literature Cited

Cope, Oliver B. (Editor) 1979. Grazing and Riparian/Stream Ecosystems Forum Proceedings - Denver Colorado.
November 3-4, 1978. 94 pp.

USDA Forest Service 1979. Strategies for Protection and Management of Floodplain Wetlands and Other Riparian Ecosystems. Symposium Proceedings. Dec 11-13, 1978. Callaway Gardens, Georgia 410 pp.
GTR-WO-12

Johnson Roy R. & Dale A. Jones 1977. Importance, Preservation and Management of Riparian Habitats. Symposium Proceedings. Tucson, Arizona 217 pp.
GTR-RM-43